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THE FLOWER GARDEN:

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Design, Formation, Planting and Management, including the Description and Cultivation of all Hardy and Half-hardy Plants, Trees and Shrubs adapted for Outdoor Culture in the British Isles.

BY

T. W. SANDERS, F.L.S., F.R.H.S.,

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"Encyclopædia of Gardening"; "Vegetables and their Cultivation";
"Roses and their Cultivation"; "Book of the Potato";
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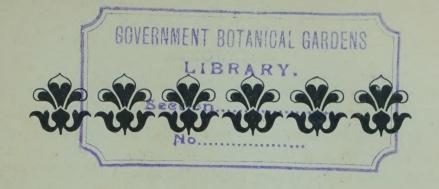


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FOREWORDS.

WHILE it may truly be said that there is no dearth of books on general and special gardening subjects, strange to say there are few indeed devoted to flower growing in the open air. With the exception of Mr. William Robinson's most excellent but expensive work, the "English Flower Garden," and the late Mr. Shirley Hibberd's "Amateur Flower Garden," now out of print, there exists no really thorough and comprehensive book dealing with flower gardening in all its various phases. This fact has induced us to prepare the present volume on a scale that, while giving all the information possible on so extensive a subject, can also be issued at a price within the means of the many thousands of owners of large and small gardens in the kingdom.

The work is divided into three parts. In the first we have dealt with the formation and management of a flower garden, including the making of lawns, paths, beds, borders, shrubberries, pergolas, arches, etc. We have also dealt with the preparation and draining of the soil, the planting of beds and borders and shrubberies, pruning of trees, shrubs and climbers, window and balcony gardening, pests and diseases of the flower garden, and other phases of garden management.

It will be observed that we have abstained from publishing designs for laying out gardens. We hold the idea that v.

general plan can be of any practical use in laying out a flower garden. Situation, aspect, and the contour of sites, vary in almost every instance, and hence each garden requires its own special design and treatment. We have, however, given a good general idea of the points that should be aimed at in laying out the garden beautiful, and must, therefore, leave the reader to exercise his own taste and originality in fashioning his garden.

In the second part we have arranged in sections the various hardy and half-hardy plants available for flower garden decoration. Thus, in the first section, the reader will find a wealth of beautiful and interesting annuals, biennials, and perennials adapted for border and rockery culture, naturalizing in wild and woodland gardens, and so on. In succeeding sections hardy bulbs, water plants, orchids and ferns are dealt with Half-hardy plants are included in a separate section, and so are climbing plants.

In the third part we have included all the flowering and ornamental trees and shrubs that have proved sufficiently hardy to thrive in the open air in English gardens. For convenience of ready reference we have placed the flowering kinds in a section by themselves.

As regards nomenclature we have adopted that of the Kew Hand-lists as far as possible. Thus the annuals known as Godetias are included in the genus Œnothera; the Retinosporas in the genus Cupressus; Azaleas in the genus Rhododendron; and the Rhodanthes and the Acroclineums in that of Helipterum, and so on. Those who fail to find any plant under its familiar name in the various sections should consult the copious index, where they will find a reference to the page in which the name required is mentioned. The recognized common names have been given both in the text and the index, so that readers who only know a plant or tree by its common name may easily find its proper or botanical name

We have been unable to give portraits of plants, trees, etc., in the text, not from want of subjects, but because of the necessity of compressing the size of the volume to enable it to be published at as low a price as possible. We have, however, added sixty-four illustrations printed on art paper representing types of gardens and beautiful effects obtained by tasteful planting.

Lastly, in submitting these pages to lovers of flower gardening, we desire to express a hope that the information given herein will be found both interesting and serviceable, and the means of enabling them to make their gardens more beautiful and pleasing in future, and, at the same time, to cultivate with success some, if not all, of the vast wealth of charming vegetation described in the following chapters.

T. W. S.

London, 1907.





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A GARDEN FASHIONED AFTER THE DUTCH STYLE.

This style of garden was much in evidence in the sixth and seventh decades of the last century. Hardy and half-hardy plants were used in combination, producing a pleasing result.



A MODERN ENGLISH GARDEN.

A good example of a large English garden, designed with a view of displaying noble trees, beautiful shrubs, and hardy flowers to the most artistic and natural advantage. The lawn in this case is not cut up with beds. Largely the work



The Flower Garden.

PART I.

THE GARDEN BEAUTIFUL.

Throughout the whole world it would be difficult to find a fairer or more beautiful spot than a properly fashioned English flower garden. Its lovely green lawn, the envy of all visitors to these shores; its wealth of beautiful trees and shrubs, and its array of charming hardy flowers, tastefully and artistically disposed in happy unison with each other, constitute a picture of supreme loveliness almost beyond

the power of language to adequately describe.

We may, it is true, in other lands, see gardens fashioned in a more elaborate style, such as Italy and France for example, but the excessive use of architectural and sculptural features so utterly overwhelm the arboreal and floral ones that they appear wanting in that simple, natural beauty which is so strong and marked a characteristic of the genuine English garden. In years gone by many of the larger gardens in this country were fashioned on similar lines, and they compare very poorly indeed in beauty and interest with latter-day examples in which nature and true art have had a strong influence in the designing and planting thereof.

And not only in large gardens, but in the smaller type

of town and suburban gardens also there existed a similar taste in design and adornment. Fancifully constructed grottoes, a plethora of wire or iron arches, rustic margined beds, vases galore, and the inevitable rockery of plain or coloured glass, etc., were all regarded in the earlier period of the last century as indispensable features of a well-designed garden. Even in the country cottage garden precious hours and days were spent in clipping and trimming the sombre yew tree into some fantastic shape, such as a peacock, a dog, or a goblet. The idea of rigid formality, like the germ of a disease, spread throughout the length and breadth of the land, making gardens more or

less hideous by such ugly features.

And in gardens generally, we well remember in the days of our youth, over forty years ago, how the many lovely and interesting hardy flowers, which are so thoroughly esteemed to-day, were regarded as mere weeds, only worthy of a place in out of the way corners. In those days the flaming zonal pelargonium, the gaudy calceolaria, the brilliant blue lobelia and so on were regarded as the only plants worth using for the summer decoration of the garden. Hence what would otherwise have been beautiful expanses of lovely greensward were cut up into geometrical beds, and borders were formed everywhere as fringes to the shrubbery or otherwise to accommodate the endless rows of these flaming flowers. When such borders formed the fringe of a shrubbery, the shrubs were of secondary importance, and so the shoots thereof were rigidly cut back to form a dense wall of greenery, regardless of any special beauty each shrub possessed. The carpet bedding mania came into vogue about the same time. The idea caught on with professional gardeners of all grades, and no garden was considered complete as regards its summer bedding without one or more of the fancifully designed flower patterns. The more intricate the design the more the pattern was admired, consequently the demand for originality in design was so great that gardeners spent many sleepless nights in trying to evolve something new from their brain. Then came the necessity also for securing suitable plants, the time and great expense in growing them, and the after-labour and cost in planting and keeping the plants trimmed in regularly to maintain the features of the design.

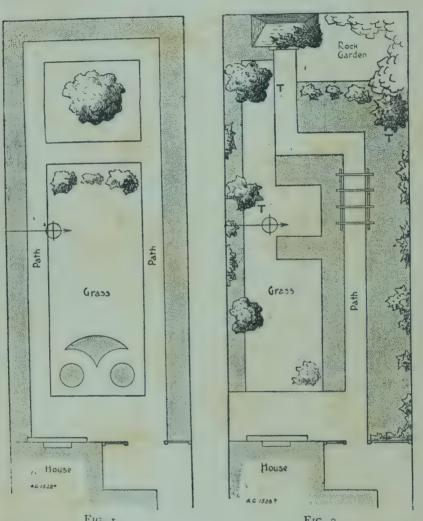
Happily, such features as we have just enumerated are giving way slowly to a more rational and beautiful style of fashioning a garden. Owners of gardens are less inclined than formerly to entrust the fashioning of their gardens to the professional or landscape gardener, or the nurseryman or jobbing gardener. People, now-a-days, prefer the garden beautiful to the stereotyped, humdrum, formal garden of days gone by. They prefer to fashion their gardens in a simple and natural manner, and to make the tasteful and artistic grouping of the vast wealth of hardy trees and shrubs and plants the chief feature, design being of secondary importance.

There is no doubt that the great secret of ensuring the garden beautiful is to study primarily the question of finding a suitable home for the various classes of hardy plants. Thus, if a speciality is to be made of alpines, of bog plants, of aquatics, of roses, of ferns, of hardy trees and shrubs, and so on, the gardener must, in fashioning the garden beautiful, first select the best sites for these, and then assimilate the general design of the whole to suit the requirements of the former. No garden can be made really beautiful from a fixed design drawn beforehand. It is true a rough idea may be prepared for general guidance, but the best way to go to work is to set out on the plot the sites for the more important classes of plants it is desired to grow, and then adapt the remaining

portion of the garden accordingly.

The primary features of the ideal garden beautiful, as fashioned to-day are, first of all, a good expanse of lawn cut up with as few beds as possible. A lawn always makes a fine feature in an English garden. Secondly, plenty of border space should be provided to grow hardy flowers and bulbs. Thirdly, ample space should be provided also for trees and shrubs, more especially those that flower. Fourthly, paths or walks should be as few as is consistent with actual requirements for gaining access to important parts of the garden. In gardens of the larger type grass walks are preferable to gravel paths in many parts thereof. In small gardens it is a mistake to waste so much valuable space in having paths all round the garden. A path up one side is sufficient, the rest being turf and border. Fig. 1 shows the usual plan of laying out a suburban garden, with a border of narrow width, and paths all round—the wrong way to lay out a garden.

Fig. 2 shows a similar plot with ample border space on the south or sunny side, and only one path. The dark shaded portions are the borders. In a garden thus fashioned there is ample room to grow flowers successfully. At T. (Fig. 2)



EXPLANATION.—Fig. 1 shows the wrong way to lay out a garden, and Fig. 2 the correct way to do it.

flowering trees may be planted to give shade and beauty. At the west end a summer house and rockery are shown, the whole being a more pleasing arrangement than the stereotyped design depicted in Fig. 1. Features to avoid in garden fashioning are: using wire arches too freely; placing the formal ready-made summer houses in too prominent a position; placing too many vases about; fixing stone fountains in the middle of a lawn; using tile edgings too freely, and generally making the garden too trim and neat.

Now-a-days, true garden lovers strive to fashion their gardens after some of the many charming examples to be met in some of our English landscapes. Thus the lawn is carpeted here and there in bold masses of daffodils or snowdrops in spring; shady banks clothed with coloured and yellow primroses; hedge banks and woodlands or shrubberies decorated with bluebells; shady nooks and corners made beautiful and interesting with ferns; ugly trees beautified by the rambling shoots of clematises or roses wreathed in blossom; the conformation of the surface broken up by pleasing undulations and planted with groups of pretty trees and shrubs, so as to form charming grassy glades and pretty spots to wander in, and so on.

The chief point to bear in mind in fashioning gardens is to make them as beautiful as possible. This can only be done by studying Nature's ways and relying as little as possible upon the skill of the geometrician. After all a garden is, or should be, a home for cultivated vegetation, and each plant, or tree, or shrub should have its requirements studied so that it can yield its natural beauties to the most pleasing effect. We use rustic or wire arches in our gardens not for the sake of any beauty they may possess, but as a means of supporting climbers, the beauty of which we do admire; and so it is not the shape or number of beds, or paths, we may have in our gardens that yield any interest or charm, but the plants we cultivate.

In large or small gardens the importance of growing beautiful flowering trees and shrubs should not be overlooked. Far too many common kinds are grown in gardens. If the reader will only attentively read the sections devoted to hardy trees and shrubs, he will find a great variety of charming kinds that are a hundredfold more beautiful than common laurels, privets, and the general run of trees and shrubs grown in many gardens. Nor should the value of the wealth of hardy creepers and climbers for clething bare walls and fences and

ugly objects be overlooked. There are plants, trees, shrubs, and climbers to suit every position in the garden, whether it be in sun or shade, described in the various sections further

on in this volume.

Finally, as the late George H. Ellwanger, the author of that charming American volume "The Garden's Story," truly says: "No arbitrary rules will suffice to make a garden, for, in the very nature of things, no two gardens can be just alike. Each one should seek his own expression in the combination he strives for. For this there exists infinite variety of material, adaptable to the particular soil, exposure and character of the space one would adorn and idealize. A charming feature of one garden may not be attainable in another, either through lack of space, difference of exposition, or natural incongruity. Thus, a miniature pond for the cultivation of bog plants—a delightful feature of the garden where it may be carried out--cannot be introduced with propriety on high exposures. Nor can a bank of ferns be placed to advantage where they have not the coolness and shade with which they are associated, and without which they cannot be satisfactorily grown." Furthermore, remarks the same author, "The great secret of successful gardening is continuity of bloom—a luxuriance of blossom from early spring to late autumn; so that, when one species has flowered, there will at once be something else to continue the blossoming period without leaving unsightly gaps of bare ground. Plant permanently, mass boldly. Do not confine yourself to a few kinds when there is such a wealth to choose from-plants for sunshine and plants for shade, plants for colour and plants for fragrance, plants for spring and plants for autumn, plants for flower and plants for form. Aim at individuality, to produce an ideal of your own."

Reader, you have in Mr. Ellwanger's words the fashioning of the garden beautiful in a nutshell. Read, mark, learn, and digest the contents of the succeeding pages, and if you fail to produce a beautiful and interesting flower garden it will be

more or less your own fault.

FASHIONING THE GARDEN.

HAVING laid down the general principles of ensuring the garden beautiful, we will now proceed to deal with the actual practical details of laying out or fashioning a flower garden.

Preliminary Steps.—Gardens vary much in conformation; some are level; some slightly sloping or uneven of surface; and others more or less steep. The first step in forming a new garden should be to ascertain the levels of the site. Ground that is perfectly level is easy to manage. beds, borders, lawn, paths, and shrubberies have only to be formed and planted, unless it be desired to create artificial undulations to give variety to the surface. Land that has a gentle slope may also be laid out without much difficulty, unless a level lawn or tennis court be desired, in which case the conformation of the land must be altered accordingly. Sites with a steep slope are more difficult to manage. In this case a terrace is a necessity around the residence, but it should be of ample width according to the size of the house, and steps will be needful to reach the lower ground. The lawn, again, below may be too steep, too, in which case a further terrace will be needed. The ground below may or may not be allowed its natural slope. The exact style to be adopted can only be determined by the actual fall of the land, and this is a case in which a practical landscape gardener should be consulted. Wherever possible, however, too many artificial terraces should be avoided, because they depreciate the natural beauty of a garden. It is wise, wherever possible, to have bold undulations rather than acute banks or terraces.

Aspect.—Flower gardens must necessarily be of varying aspects, according to the positions in which the road, or street or square is laid out for building purposes. It is only those who can afford the luxury of a house in ample grounds that really have a choice in the matter. In the case of suburban gardens,

those who are fond of gardening should be careful to avoid gardens that have large trees on adjoining property which shade the garden at all. Shade is inimical to the growth of most garden plants; and besides, there is the additional evil of the roots from the trees penetrating the soil and robbing it of its nourishment and moisture. To ensure roses and plants doing well the garden should be away from tall trees and running from north to south, the house being at the north end. Gardens that slope to the north or east are bad, because of the exposure to cold winds, which injure vegetation in the spring.

Soil.—Here, again, is a matter which every one cannot please himself about. The ideal soil for a garden would be a good deep loam overlying a gravelly subsoil. The soil in this case would be rich, and the drainage perfect. of all soils for a garden is clay. This is not only heavy and difficult to work, but also cold and damp. To get such a soil into a suitable condition it must first of all be drained by inserting 2\frac{1}{2} inch pipes in oblique lines 10 feet to 15 feet apart, one on each side of a main drain of 3-inch pipes. The main drain must be 3 feet deep, and have a gentle fall to the nearest road drain, and the branch drains be laid 2½ feet deep. In a small garden this is not an easy matter to do, and the best alternative is to trench the soil 3 feet deep and work in plenty of fresh horse-dung, road grit, burnt ballast, and decayed refuse (see Fig. 3). This trenching will open the pores of the soil, allow the surface water to drain away below, and hence admit air and warmth to the upper stratum. Dressings of lime every three years will also improve the texture of such a soil. In any case, whether drained or not, deep trenching is advisable the first year. When trenching avoid bringing any of the second or third spit of soil to the surface; keep them in their respective positions, and the natural surface soil on top. Light sandy soils are apt to suffer from drought in summer. To obviate this work in some clay and plenty of cow or pig manure to help bind the soil together, and enable it to conserve moisture. Horse manure should be avoided on light or sandy soils, as it has a tendency to render the soil still lighter and drier. Chalky soils are difficult to deal with, more especially when the surface soil is thin. Really there is only one way of dealing with such a soil, and that is to either dig out a foot or so of the chalk and replace it with good soil and manure, or to add another layer of soil on the existing surface. Draining is not required on sandy or chalky soils. Heavy mulchings with rotten manure are essential in spring and summer on both soils. In the case of suburban gardens it is the general practice of builders to pare off the turf from old pasture land and sell it for potting purposes, thus greatly im-

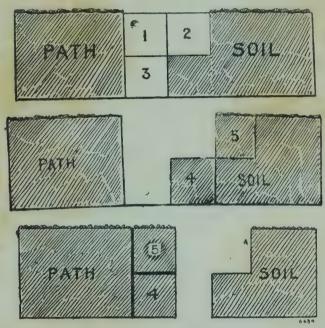


Fig. 3. MODE OF TRENCHING SOIL.

EXPLANATION.—Dig out a trench 2ft. wide and 1ft. deep (1 and 2), and wheel this to opposite end of plot. Below dig out another trench 1ft. wide and deep (3), and wheel to side of previous heap. Figs. 1 and 2 are the soil, and Fig. 3 the subsoil. Next turn over the foot of soil represented at 4, then add a layer of manure on top, and place the top foot or spit of soil (5) on this (see third diagram). Proceed in a similar way till the plot is finished, then place the small heap of subsoil in bottom of trench, and the large heap of soil previously wheeled into a heap on top. The soil is then correctly trenched.

poverishing the soil for garden crops. Furthermore, in clayey districts the subsoil dug out from the foundations is often spread over the naturally good surface soil, thus rendering it exceeding difficult to get crops to grow in such sour, uncongenial stuff. The reader is advised on taking possession of such a soil to dig test holes here and there to ascertain if there be good soil below, and if so, to trench the soil, burying the

clay below and bringing the good mould to the surface. Do not overlook the importance of trenching the soil deeply when a garden is first formed. Unless this be done trees, shrubs, roses, and perennials will refuse to do well, and the trouble, annoyance, and expense of trenching will have to be encountered later to ensure satisfactory results.

Paths.—Having decided the position of the paths, the next thing will be to form them. For the average small garden the paths may be 3ft. wide, but for those of larger size the width should be 4ft. to 6ft. Where the soil is naturally well-drained shallow paths formed of 4in. to 6in. of core (brickbats, clinkers, or stones), and covered with 1in. of coarse and 1in. of fine gravel, will suffice. If the soil is of a clayey nature it should be removed to a depth of 1ft., and 6in. of brickbats, 3in. of coarse cinders or stones, 2in. of coarse and 1in. of fine gravel put on top (see Fig. 4). This will make a good firm dry



Fig. 4.

EXPLANATION.—This shows a section of a properly made path. The large lumps are the core or rough material, and the shallow layer on top is the gravel Note the slightly raised centre of path.

path. Where paths are formed on the slope, a drain should be laid 1ft. below the surface and catch-pits and grids placed at intervals of 10ft. to 20ft. in connection with the drains on each side of the path. Generally speaking, unless there be much surface water, drains and grids are not required in the case of level paths. There should be a slight camber or contour to the paths to throw off the water to the sides. A rise in the centre of ½in. is sufficient for a 3ft. path; 1in. to 1½in. for a 4ft., and 2in. or slightly less for a 5ft. or 6ft. path. In the foregoing remarks gravel only has been mentioned for surfacing paths. Ballast, however, is often used, and is an excellent substitute for gravel. Cinders, too, are often used, but we only recommend these for very small gardens. Asphalte and tar are favoured by some, but they are not so pleasing to

the eye as the brown or reddish tinted gravel. Both asphalte and tar paving should be laid by someone accustomed to such work, otherwise it will not prove lasting or satisfactory. The gravel should not be of a loose shingly nature, but contain a fair amount of loam, so that when moistened and well rolled it will settle into a firm hard surface. Roughly, the cost per yard super for forming a gravel path is 3s. 6d. to 4s.; asphalte, 1os.; tar, 2s. 6d.; ballast, 3s. Gravel paths have one disadvantage; they are apt to produce a crop of weeds. These, however, may be kept in check by an annual application of one of the prepared weed killers; or by a solution of hot brine, or carbolic acid at the rate of an ounce per gallon of water. Once every three or four years it is a good plan to lightly loosen

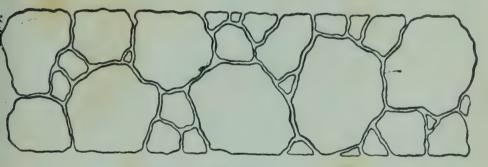


Fig. 5. FLAT STONE PATH.

the surface, add a layer of fresh gravel, and then giving a good rolling. Drives are made similarly to gravel paths, except that there should be at least 1ft. of hard core in the bottom and 3in. of gravel on top. The centre should be 3in. higher than the sides, and the width be 15ft. to 20ft. Drains must also be furnished at the sides. Sometimes paths are formed of portions of broken flagstones as shown in Fig. 5. These are simply laid on the soil and creeping plants grown in the crevices, an old and pleasing idea.

Borders.—The width of these must be governed by the size of the garden. They should, however, as previously intimated, be narrower on the shady than the sunny side. In small gardens a good useful width is 5ft. to 8ft., but in larger gardens the width may vary from 8ft. to 12ft. or more. When of good width there is ample room to grow bold groups of

hollyhocks, phloxes, and Michaelmas daisies at the back; lupins, echinops, and eryngiums in front; pæonies, irises, etc., next; and smaller plants in front. Needless to say, such borders should be deeply trenched, heavily manured and limed before planting. Deep culture ensures free rooting, strong growth, and handsome heads or spikes of flowers. Moreover, in dry weather the roots can descend deeply in search of moisture, and will need less water.

Beds.—These should be of simple design, either oval, round, oblong, or heart-shape. Beds of intricate outline are no longer favoured, and rightly so. The simpler the beds the more pleasing flowers or shrubs will be. Of course, where a group of beds is desired for growing roses or summer flowers

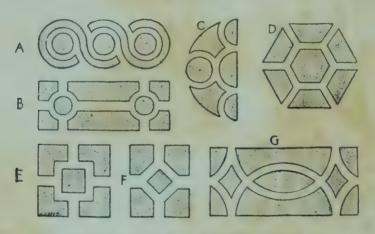


Fig. 6. PLANS FOR FLOWER BEDS.

EXPLANATION.—A is a suitable design for beds for a narrow grass border; B for a small flower garden; C for the end of a lawn; D, E, F, and G, for a Rose garden.

and spring bulbs, the beds may be of other shapes to fit in and make a pleasing design. Here, again, the more simple their form the better. The same precautions should be observed in the case of preparing the soil as advised for the borders (see Fig. 6).

Lawns and Tennis Courts.—A good lawn is the chief charm of a garden, and no trouble or expense ought to be spared in its formation. A mere levelling of the soil and laying down indifferent turf, or sowing grass seeds, will never

ensure a good lawn. If the soil be of a heavy or damp nature, draining is indispensable. A central drain of 3in. pipes should be laid either down the centre or obliquely across the plot, as convenient for providing an outlet to allow the water to get away. At intervals of 10ft. branch side drains (2½ in. pipes) should be arranged on each side in an oblique fashion, these

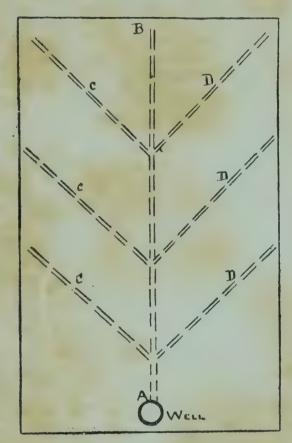


Fig. 7. HERRING-BONE DRAIN.

EXPLANATION.—A to B is the main drain, and C D are the branch drains leading to the main drain. A simple and effective method of draining a lawn or garden.

entering the main drain. Put the main drain 2½ft. deep and the branch ones 2ft. deep, letting them gradually dip to the main drain (see Fig. 7). Next trench the soil two spits deep and work in plenty of cinder ashes and fresh manure. If to be turfed add an inch or two of good soil on the top of the clay. If to be sown with seeds merely add the layer of soil. Where the soil

is naturally well drained it will only be necessary to dig the soil two spits deep and add plenty of rotten manure. This deep digging and manuring is just as essential for the growth of grass as it is for growing ordinary crops. Grass will not thrive any better than any other crop unless its requirements as regards food and soil are properly supplied, and it is owing to not observing this fact that so many lawns fail to do well. Where expense is no object we also advise a dressing of basic slag to be applied before turfing or sowing, on heavy soils at the rate of four ounces per square yard, and a similar quantity of bone meal on drier soils. Assuming that the lawn is to be

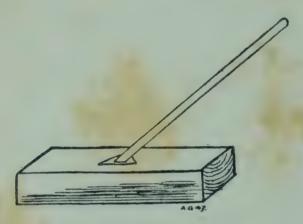


Fig. 8. WOODEN TURF BEATER.

turfed, the first step is to level the soil. To get a true level use a spirit level and a straight-edge board. First level down the lawn, driving in pegs to the requisite height as you go along; then level across the lawn and drive in more pegs. The soil has then to be levelled to the height of the pegs, made as fine as possible, trodden down evenly, then raked fine. On a heavy soil it is advisable to add a half-inch layer of fine ashes on top to act as drainage and to prevent worms rising to the turf. If worms are very numerous add one part of gas-lime to two parts of ashes, and spread this instead of the ashes alone on the surface before laying the turves Good turf, free from weeds, should be selected. If weedy when laid down the weeds will give no end of trouble in future years. Turves are usually ift. wide, 3ft. long, and 2in. thick, and three are required per square yard. By measuring up the



A GOOD EXAMPLE OF AN OLD ENGLISH GARDEN.

This represents the style of garden in fashion during the Fudor period. Clipped yew hedges and trees were then in fashion. This style is being revived in many large gardens at the necessit day. Compton Wyngates, Warwickshire.

AN EXAMPLE OF THE ITALIAN STYLE OF GARDEN.

rea in square yards and multiplying the product by three, the number required can be ascertained. Good turves cost about three-halfpence each. Commence at one end and lay the turves now neatly and closely together, and when all are laid beat them with a wooden turf beater (Fig. 8), so that all joints are firmly closed. After this is done apply a thin coating of sand or finely-sifted soil, lightly rake the surface over to work in the sand, and then leave for a few weeks, when roll occasionally. The cost of turfing a lawn, including labour, is about 20s. per square rod. Where good turf cannot be obtained, it is far better to sow a good mixture of grass seeds. A really good turf may be obtained in this way in a year or so, and at a cost of about is. per square rod for seed. It is therefore more economical to sow seeds than to lay turf. The soil must be prepared as advised for turf, except that no gas-lime or ashes must be placed on the surface. The surface soil must be well worked to get it into a fine tilth. When fine and level sow the seeds on a fine calm day early in March or September. Walk up the plot and sow evenly with the hand, and then across the plot in a similar fashion. This will ensure the seed being evenly distributed. Next lightly rake the surface over, and then roll it up and down and across. One pound of seed is sufficient to sow a square rod of ground. If worm casts should appear before the grass, run the roller over the plot on a fine day, but do not roll after the grass comes up until it has been cut for the first time. Cut when the grass is about three inches high. After this roll occasionally, and cut at intervals of a For the first three cuttings use a scythe only, then the machine, which should be so adjusted as not to cut too closely. In summer the machine may be used twice a week. A lawn or tennis ground sown in March should not be used till late in summer, but one sown in Septe ber will be fit to use the next summer. Of the two seasons September is the best for sowing, as then there is more moisture in the soil and the herbage makes a stronger growth. Newly-sown lawns require protection from birds. The simplest method is to run strands of black cotton backwards and forwards down and across the ground. When purchasing lawn seeds go to one of the leading seedsmen, tell him the character of your soil, and then he will send a mixture of kinds specially adapted for the soil and district. For slopes and raised margins turf will be found better than seeds, as it is difficult to sow the latter to ensure a regular, dense growth. For hints on the genera care and management of lawns see another chapter further on.

Shrubberies.—In small gardens there is usually not room for a shrubbery proper. In this case shrubs have to be grown singly in the hardy plant border, or in groups. In larger gardens, however, there is room for a good belt of trees and shrubs around the boundaries and in large beds in other parts of the garden to serve to screen off one portion from another. Here, also, it is essential that the soil be deeply dug and manured before planting. Trees and shrubs need a deep soil and a generous diet to ensure their thriving well from the start. Where trees are required to shelter the garden from north or east winds, rapid-growing kinds like the Birch, Poplar, and Sycamore, interspersed with such evergreen trees as the Norway Spruce and the Austrian Pine, should be planted round the boundaries. In years to follow, these may be thinned out if needs be. Inside this belt trees of a more ornamental character, either in leaf or flower, may be planted, intermixed with deciduous and evergreen shrubs. Flowering trees and shrubs should certainly be freely used. They may cost more than common laurels, privet, and the like, but they will more than repay the extra cost by the great beauty and variety of their flowers in spring and summer. Common shrubs may be used for temporarily filling up spaces between the choicer kinds, but they should be promptly cleared away as soon as the choicer ones attain a fair size. Among the flowering trees we strongly recommend are the Horse-chestnut, Laburnum, Almond, Peach, Scarlet and Pink Hawthorn, Double Cherry, Flowering Crabs, and Snowy Mespilus. As to the flowering shrubs, Spiræas, Philadelphuses, Diervillas, Cytisuses, Magnolias, Ribes, Prunuses, and a host of others, which are described in the section devoted to Flowering Trees and Shrubs. With these and Silver-leaved Maples, Scarlet Oak, Golden Limes, and other coloured-leaved kinds, a shrubbery may be made a feature of great, varied, and lasting interest. On the margins of shrubberies hardy plants and bulbs may be grown to good effect, and in among the shrubs blue bells may be cultivated to yield a plethora of blossom in the spring. Indeed, a

shrubbary need not be the dull, commonplace feature it often is in gardens where overcrowded with commonplace and neglected trees and shrubs. A charming feature in gardens of sufficient extent, would be beds or groups of Rhododendrons and hardy Azaleas intermixed; or Kalmias, Andromedas, Daphnes, and Heaths. Nor are the claims of the many lovely forms of Lilacs to be overlooked for grouping on the fringe of lawns or shrubberies. One might, in fact, have a most delightful and interesting garden of hardy trees and shrubs alone.

Rockeries.—No garden can be said to be complete without a rockery on which to grow those lovely alpine gems which come from mountain homes. But a rockery to be a worthy feature of the garden must be constructed in a proper manner and of proper materials, and not, as previously



Fig. 9. SECTION OF A ROCKERY.

EXPLANATION.—Fig. 9 shows a method of excavating the soil a foot or so deep and throwing it on the sides to form the base of the rockery. Such paths with rockeries on each side are more pleasing than rockeries formed on level ground.

mentioned, of clinkers, or burrs, or flints. Such erections are not worthy of the name of a rockery, nor are they adapted to the requirements of alpine plants. Burrs and clinkers are too porous, and flints too glaring and prominent in colour to be pleasing to the eye or suitable for the growth of plants. If a rockery can be made of Tufa, sandstone or limestone rock then the appearance will not only be more natural and pleasing, but the conditions they afford as regard coolness and moisture will be more congenial to the growth of the plants. A rockery may be formed on the side of a sunny bank or slope, or in a dell or depression, and if in the latter case a stream of water can run through it so much the better. A rockery may also be formed in shade or partial shade to grow

ferns and shade-loving alpines. The main points to consider in forming a rockery are (a) to arrange the stones in as natural a manner as possible; (b) to allow ample space between to accommodate the plants; and (c) to have as great a diversity of surface conformation as the size of the rockery will permit. Thus, here a huge stone or two should stand out boldly, then

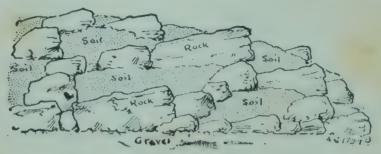


Fig. 10. HOW TO FORM A ROCKERY.

EXPLANATION.—Fig. 10 shows the proper way to arrange the stones on a rockery. The stones are placed in a slightly tilting manner, like the natural strata of a rock, and ample space left between to form beds for the plants.

others recede so as to form bays. Some of the stones should be buried fairly deep and others merely lie on or near the surface. Those who want to get a good idea of how to form

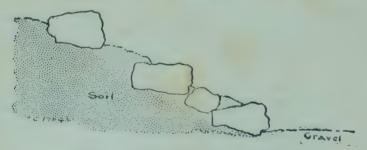


Fig. 11. SECTION OF ROCKERY.

EXPLANATION.—This is a section of Fig. 10, and shows how the stones are placed.

a rockery should visit the Royal Gardens, Kew, and see the finest example of an artificial rockery ever made. The base of a rockery may be formed of ordinary soil, but the space between the stones should be composed of the special soils advised elsewhere for each genus of plants. If the stones are properly arranged there will be a variety of aspects to suit

all kinds of plants, and this after all is the real object of a rockery. Rockeries are largely made now of artificial rock so constructed as to resemble a natural ravine or rocky cliff, but this form of rockery is a costly one to build. After all the real object of a rockery is not so much a conglomeration of stones as a suitable home for the lovely Alpine gems we desire to grow. So in building a rockery do not attach so much importance to the appearance of the rockery as to forming by its means a congenial home for the plants. Elsewhere will be found descriptions of a host of plants that may be grown in sun or in shade on a rockery. See Figs. 9, 10 and 11.

Fernery.—A hardy fernery is a charming addition to a garden. Few plants are more graceful or elegant in growth than Ferns, and a collection of native genera, or species and varieties alone, is well worthy of culture by the amateur gardener. If, however, the hardy European and North American kinds can be grown also, then a very interesting feature will be added to the joys and pleasures of a garden. A hardy fernery may be formed in any shady spot, such as a north border or position getting little or no sun. Here all that is necessary is a heap or bank of ordinary soil and decayed leaves. On this place tree roots, portions of tree trunks. lumps of stone, or even burrs. Arrange them in a picturesque manner, and then fill the space between with 6 to 12 inches of the special composition advised for each genera. In this plant the ferns in April. A really pretty fernery may be formed by excavating a winding path two or more feet deep and throwing the soil on the sides to form banks, then placing tree roots and trunks, stone or burrs, and adding special soil as above advised. To accommodate moisture-loving ferns. like the Osmundas, small pools may be formed here by the side of the winding path, and pits or small caverns made for growing ferns like the Killarney and Tunbridge kinds that love partial darkness, coolness, and moisture. Space might also be found for building an imitation old wall on which to grow the Wall Rue, Maidenhair, Spleenwort and Scale ferns.

water Gardens.—In modern gardening much attention is now paid to the culture of water-loving plants, more espe-

cially the lovely hybrid Water Lilies (Nymphæas). In gardens where there is a natura' stream of water it is a comparatively

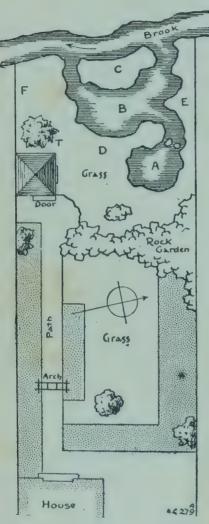


Fig. 12. PLAN OF A WATER GARDEN.

EXPLANATION.—Where a brook or ditch is available the water may be diverted to form a lake as shown at E, and small islands, as indicated at A, B, and C.

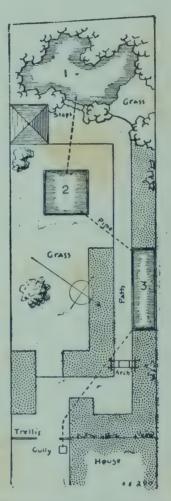


Fig. 13. ANOTHER PLAN OF WATER GARDEN.

EXPLANATION.—In this case a small pond or lake is formed with a concrete or puddled clay bottom and the water supplied artificially. The margins of the pond may be fringed with rock.

easy matter to construct a series of small pools in an artistic manner for growing all kinds of water and waterside plants.

Those who are fortunate enough to have a natural lake or pond in their grounds have only to put in the needful plants, and a water garden is at once assured. But where neither stream, nor lake, nor pond exists, an artificial one must be formed. The best way to do this is to select a damp plot in a low part of the garden and there to excavate the soil to a depth varying from Ift. at the margin to 3ft. or so in the centre. If the natural subsoil be clay, it will only be necessary to well ram the bottom to make it water-tight. If, on the other hand, the soil be porous, it will be necessary to excavate the site a foot deeper and put in a foot of clay, well ramming this down, or to cover the base with concrete. A practical

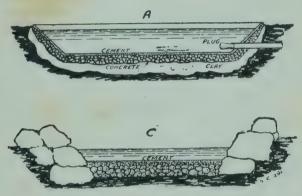


Fig. 14. SECTIONS OF LAKES.

EXPLANATION.—A shows a section of a pond or lake with a cement bottom resting on a layer of clay, and C a similar pond fringed with rocks.

man should be employed to do the latter. As regards the contour of the pond, do not make it circular, but oval, or with a bold, sinuous outline, so as not to give it too prominent an appearance. When the pond is made and filled with water do not put soil in the bottom, but get an old wicker or a fish basket, fill with compost, plant the roots of the plant therein, and then drop the whole in the water. In time the receptacle will decay, and there will be sufficient soil, added by the accumulation of mud, for the plants to thrive in. Then on the fringe of the water Royal and Common ferns, Loosestrifes, Sedges, and other waterside plants, trees, and shrubs may be planted to convert the pond into a charming water garden. Some persons have a fancy for edging such ponds with real or

artificial stone. This, we think, is a great mistake; it makes the pond too formal in appearance, and waterside plants cannot so well be grown under such conditions. In the garden beautiful we want everything to look as natural as possible, and this can only be done by following Nature's teaching as exemplified in our natural lakes and watercourses. Of course where there is no natural supply of water, pipes must be laid so as to replenish the waste by leakage and evaporation. Hints as to growing aquatics in sunk tubes, etc., are given in the section devoted to these plants. See Figs. 12, 13 and 14.

Bog Gardens.-A hog garden means a naturally damp spot, partly in sun and in shade with either a natural or an artificial bed of peat in which to grow many kinds of orchids, lilies, irises and plants generally that like a little moisture and a peaty soil. Such a garden may be formed on a small or a large scale in any low-lying part of the garden. No special design is required. Groups of peat-loving shrubs like Kalmias, Rhododendrons, Andromedas and Heaths may be planted in a bed slightly elevated above the ordinary level and the remaining space devoted to the dwarf plants planted in irregular masses. Flat stones should be laid here and there to step on and form a rugged kind of path. If the natural earth be not of a peaty nature excavate the soil to a depth of one to two feet and fill up with peat or bog earth. If a small stream of water can meander through the bog garden so much the better, as then many plants that revel in moisture may be grown to add to the beauty and picturesqueness of the spot.

Wall Gardens.—In gardens where old crumbling stone walls exist these may be converted into interesting objects for growing plants that delight to thrive in the chinks and crevices thereof. The Wallflower, Snapdragon, Columbine, Cheddar pink, Fumitory, Linaria cymbalaria, House Leek, Stonecrops, Aubrietias, Saxifragas, etc., together with the Scale, Spleenwort, Hart's-tongue and Wall-rue ferns, all do well in such a position. A suitable wall of stone may be constructed against a sloping terrace, for instance, leaving wide crevices in which to fix the plants by the aid of a mixture of fresh cow dung and clay. Once the plants get established, they will thrive and flower

gaily and form a pretty feature in the garden. A wall of this kind is infinitely more interesting than the steep grassy slope so much in vogue in the case of terraces. Where gardens have a steep declivity, and the ground has to be made into a series of terraces, wall gardening may be admirably carried out.

Arches.—In regard to arches, these are often overdone in small gardens. The real use of an arch in a garden is to form a sort of screen or connecting link between one part of a garden and another. Arches should never be fixed up in the

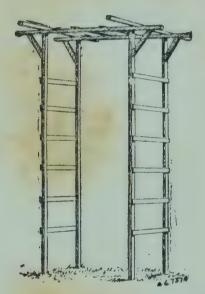


Fig. 15. A SIMPLE GARDEN ARCH.

EXPLANATION.—Fig. 15 shows a simple form of garden arch, which may be constructed of peeled oak, larch, bamboo, or other wood.

middle of an open garden; they are quite out of place there. If free-growing roses are required in such a spot it is better to grow them in pillar fashion, using a stout tree stem to support them. Where arches are required let them be of as simple construction as possible, as the sole object of their use is to support climbers. Unpeeled larch, or peeled oak, and varnished, is a suitable kind of wood to use. A simple arch can easily be made by anyone who can use a saw and hammer.

Galvanized arches are objectionable from two points of view. First because of their conspicuous appearance, and, secondly. on account of their tendency to injure the delicate shoots and plants trained over them. If they must be used, give them a couple of coats of a neutral green paint before fixing. Iron arches are equally objectionable so far as the growth of these plants is concerned. They get too hot in summer and too cold in winter. Wooden arches (see Fig. 15), and especially those constructed of Bamboo canes, are on the whole best for the growth of plants.

Arbours or Summer Houses.—An arbour is a nook of simple construction, formed of a few larch, ash or oak branches at the side and across the top, with a seat for one or more persons inside. The more rustic and informal it is

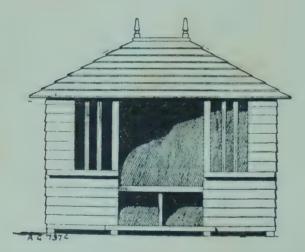


Fig. 16. DESIGN FOR A SUMMER HOUSE.

EXPLANATION. The house figured is built of a framework of wood, covered with feather-edged boards, painted or creosoted. The roof might be thatched with heather, reeds or straw.

made the better. Its object, like that of an arch, is to support climbers such as Clematises, Jasmines, Honeysuckles, and Rambling Roses, and when well covered with these it forms a pleasing feature in the garden. It should not be built in a too prominent place, but in some secluded corner where shade from hot sun and quiet retirement can be obtained.

A summer house is usually a structure of a more elaborate kind, built with fancy woods on the outside, lined with matchboard inside, and thatched with straw or heather. Fig. 16 shows a simple form of summer house, which, when covered with creepers, would not be unsightly. Such a structure should only be used in gardens where the sides and back can be embowered in trees and shrubs, and its roof and sides fringed with pretty climbers or roses. A too prominent place should not be assigned the structure, unless it be well embowered in vegetation as suggested.

Pergolas.—The pergola, a series of rustic arches embowered in climbers, has become fashionable of late years, and a very pretty feature it is in gardens. A pergola may be used to cover a path leading from one part of the garden to

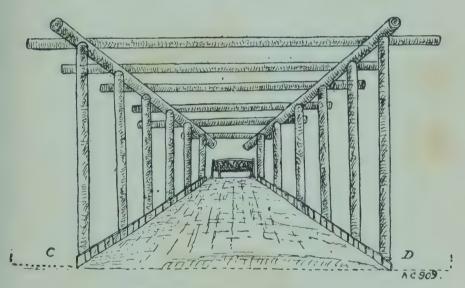


Fig. 17. A SIMPLE PERGOLA.

EXPLANATION.—The pergola shown is constructed of larch poles, but cak, apple, or other rustic wood may also be used.

another, or along some grassy path or glade. It is usually built on strong oak posts placed 8 to 10ft. apart, these being braced by longitudinal pieces along each side at the top, and further cross-pieces to join the two sides. The cross-pieces are further joined by smaller pieces so as to make a stable

foundation for the creepers on top (Fig. 17). The uprights should be steeped in creosote to a height of 3ft. to preserve their bases from damp and rot, and be fixed 18in. to 2ft. in the soil. More elaborate pergolas are made of oak or teak, fixed on brick or stone plinths, but these are too costly for general use. Against the uprights rambler or pillar Roses, Clematises, Vines, Knotweeds, Jasmines, Honeysuckles, and Wistarias are planted, and these in due course cover the pergola and make a charming feature in the garden beautiful.

Edgings.—The best of all edgings and the most natural to wit is turf. Tiles, however, are much used, but only in small gardens where space cannot well be afforded for the usual grass verge of I to 2ft. in width. There are many forms of tile in use, but that known as the "Cable" pattern is generally favoured. These are made of blue metallic clay and in brown glazed stoneware. The former cost 14s. to 15s. per 100, and the latter about the same price. They are 9in. long. Another, and cheaper pattern is the fluted O.G., each 7in. long. They are made in two colours as for the "Cable" pattern, and cost 7s. 6d. per 100. Burrs are often used as edgings, but they are dangerous to use where children play about the paths. Next to a grass verge a living edge of Thrift or Box is best. A Box edging properly planted and trimmed will last a lifetime; besides it has a neat appearance. The kind used for this purpose is a dwarf form of the Common Box, called the Dutch. It is sold by nurserymen at sixpence per lineal yard, and one nursery yard is sufficient for three lineal yards of ordinary garden edging. To plant an edging, first take the level of the proposed edging by means of a spirit level, straight-edge and pegs. Having done this, dig the soil deeply one spit wide and deep, and make the soil up level with the pegs. Tread the surface down firmly, again make up any inequalities, rake level and beat down with the back of a spade. Run the straight-edge along to see if all is level, then stretch a garden line along where the edging is to be, and on the path side chop out a vertical trench six inches deep. Now get the plants, trim off their tops quite level, and then the planting may begin. Commence the planting at that end which allows of the left hand being employed to hold the plants in position in the trench while the right knee is on the ground. With

the right hand place the Box in position to be held there with the left. The right hand covers the roots with fine soil chopped from the trench; the left foot presses the soil about the roots firmly as the work proceeds. The Box should be two inches above the soil when planted. Fill in the trench, and tread the soil quite firm, so as to ensure a straight edging. The advantage of preparing the plants carefully and cutting the tops quite level will now be apparent. When prepared carelessly, it is not possible to plant it as satisfactorily as could be wished. After-attention consists of a yearly cutting of the shoots. If the edgings are trimmed twice a year, in April and August, they will always have a neat and pleasing appearance, and last in good condition for very many years. For shrubbery porders Ivy or Periwinkle makes the best edging. Plant strong coots of Ivy and peg the shoots as they grow to the soil. Trim the edging in closely every April, and then a close compact edging will be assured.

Rosery.—At one time elaborately designed roseries were formed with iron framework of fantastic designs to train the few climbing kinds then grown thereon. But modern folk have become more sensible; they grow their climbers on pillars, arches, or pergolas, as a feature of general decoration, and eschew the old-time ugly temples, etc. A modern rose garden is formed of a series of beds of simple design in which to grow standards, half-standards, and dwarfs, and a much better result is obtained. In the average small garden, roses are best grown either in mixed borders or in solated beds. See the article on Roses elsewhere.

wild Garden.—Of late years there has been a growing aste for devoting the outer or rougher part of the garden to growing bulbs, perennials, and shrubs in bold groups or masses, either in the turf or in borders. And a very pretty feature it is where there is space to carry it out. In small gardens every inch of space is needed to grow choice plants, so that it is only in the gardens of many acres in extent that wild gardening is attempted. Here Snowdrops, Crocuses, Daffodils, late Tulips and Fritillarias may be liberally sown by hand over the turf, and the bulbs planted exactly where they fall. Bold groups of Kniphofias or Tritomas, herbaceous and Tree Pæonies, Oriental Rhubarb, Lupins, and the like may be

dotted about and left to grow and flower of their own sweet will. Bamboos, again, may find a congenial home in some sheltered spot. In the borders coarse-growing Sunflowers, Doronicums, Galegas, German Irises, etc., may also be grown to good effect. There should be no attempt at "dressiness" or "tidiness" about a wild garden. The grass, with its Buttercups, Ladies' Smocks and other wild flowers, should be allowed to grow in all its natural vigour till July before it is cut. Such a garden with its group of flowering shrubs and the other features is a thing of incomparable beauty and charm, especially when Rambler Roses, Clematises, and Knot-weeds are allowed to ramble over bushes and trees in a free, natural manner.

Woodland Gardens.—In woodlands and copses very pretty effects may be obtained by massing yellow and coloured Primroses on the knolls and in among the bushes. Blue Bells, too, white and blue, Foxgloves of many hues, Dog's-tooth Violets, Willow Herbs, and Lilies of the Valley may all be

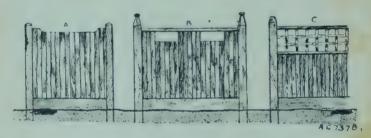
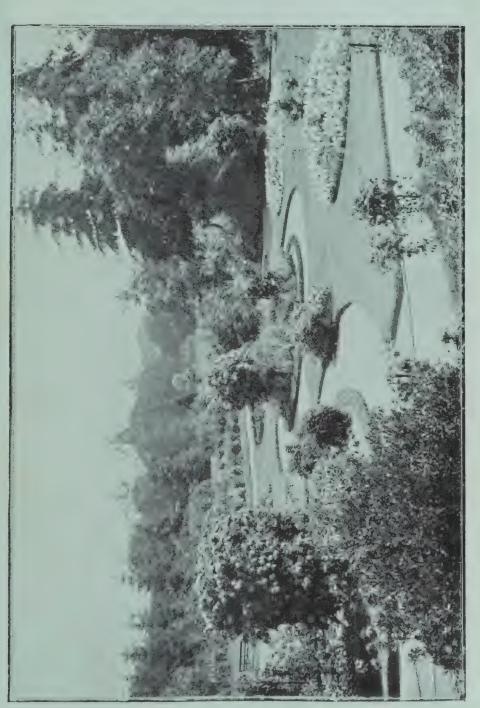


Fig. 18. SUGGESTIONS FOR FENCES.

EXPLANATION. A is a closed oak pale fence; B a similar one, with spaces at intervals to admit light and relieve the severity of appearance; and C another type with trellis work on upper part.

massed to good effect by the side of open or sunny glades, and made very beautiful in spring and summer. If the reader will peruse the sections devoted to culture of the great variety of trees, shrubs, plants, bulbs, etc., he will find there are numerous things that can be grown in such a situation.

Hedges and Fences.—In gardens of all sizes a boundary barrier of some kind is, of course, essential. In town and suburban gardens brick walls, 5ft. to 6ft. high, are sometimes used to mark the boundaries of the gardens. These, how-



A GEOMETRICAL GARDEN

The lawn, garden was much in vogue during the middle of the last century.



AN UNDESIRABLE TYPE OF GARDEN.

ever, are expensive to build. The cost of a gin. wall 5ft. for a quarter-acre garden would be about £82; half-acre, £116; and one acre, f, 160. Stone walls would be more expensive still. Wooden fences are cheaper, oak paling (close) costing £64 per quarter-acre; £91 per half-acre; and £135 per acre. Open-pale fencing (oak) is cheaper still, costing £35per quarter-acre; f, 50 per half-acre; and f, 67 per acre. In all cases such fences are 5ft. high. Higher fences would, of course, cost proportionately more. Open fencing, although the cheapest, is by no means the best, as the constant passage of air through the paling causes draughts which are inimical to the well-being of the plant (see Figs. 18 and 19). There is not the slightest doubt that hedges are best for garden boundaries. They admit air to the garden, yet prove an efficient shelter from draughts, and are more pleasing to the eye. Moreover, they are less expensive than walls or fences, the cost per lineal yard, including plants, labour of planting, etc., not exceeding is. 6d. The best shrubs for forecourt nedges are Oval-leaved (green) or Golden Privet and Euonymus. For general boundary hedges, especially in exposed positions, Thorn ("Quick") and Beech make a splendid hedge. These should be planted alternately. Hornbeam, again, makes a fine shelter hedge. The Myrobalan Plum, too, is a good hedge shrub, being specially suitable for keeping out cattle. Privet and Beech also do vell together. Privet alone makes a neat hedge for suburban gardens. For division hedges in the garden, Holly, Yew, Box, Thuya occidentalis (Arbor-vitæ) and gigantea (Lobbii) and Cupressus lawsoniana are good subjects. The first three grow very slowly, but eventually make grand hedges. Holly nay also be used as a boundary hedge. Laurel makes a good dense hedge, but is only adapted for sheltered positions. n planting a hedge it is most essential that the soil be renched 3ft. wide and deep, and have plenty of rotten nanure mixed with it. The shrubs will then do well. Evergreens should be planted in May or September, and the est in autumn. Holly and Thorns (one Holly and six Thorns per lineal yard); Berberis Darwinii and Thorn (two Berberis and four Thorns per lineal yard); and Berberis Darwinii nd Holly (one Berberis and two Hollies per lineal yard) also nake splendid hedges.

The following table shows the distances for planting, etc.:—

Name of Shrub.	Time to	Distance to Plant.	Height of Plants.	Cost of Plants	Cost of Planting and Preparing Site per lineal yard.	Cost of Trimming per chain.
Deciduous—		Inches.	Inches.	£ s. d.	s. d.	s.d.
D 1	Oct. to Feb.	9 to 12	18 to 24	0 4 0	0 9	0 4
1 Titt-	Oct. to reb.	12	24 to 36	0 5 0	0 9	0 4
Berberis	Ditto	9 to 12	18 to 24	1 00	0 9	0 4
Hornbeam	Ditto	, 36	24 to 36	0 50	0 9	0 4
Myrobalan Plum	Ditto	6	12	0 6 0	0 9	0 4
Quick	Ditto	4	12	0 3 0	0 9	0 4
Ditto	Ditto	6	18	0 4 0	0 9	0 4
Evergreen—				7		7
Arbor vitæ	Sept. & Oct.	12 to 18	24 to 36	1 15 0	0 9	0 4
Ditto	izepita out.	24	36 to 48	2 10 0	0 9	0 4
Box	Autumn	12	12	1 50	0 9	0 4
Cupressus	Sept. & Oct.	18	18 to 21	1 10 0	0 9	0 4
Euonymus	Oct. to Dec.	12	12 to 18	2 0 0	0 9	0 4
Holly	April	9 to 12	12	IIO	0 9	0 4
Ditto	May	12	12 to 15	1 15 0	0 9	0 4
Ditto	Sept	15	18	2 50	0 9	0 4
Laurel	Autn. & Spt.	12 to 24	12 to 24	0 15 0	0 9	0 4
Ditto		24	18 to 24	1 50	0 9	0 4
Privet	Autumn	4	12 to 24	0 50	0 9	0 4
Ditto		6	24 to 36	0 7 6	0 9	0 4
Yew	Ditto	9 to 18	9 to 12	IIO	0 9	0 4
Ditto		18	12 to 15	I 10 0	0 9	0 4
				(1

It is advisable to cut young thorns well back the first year o planting to make them bushy at the base. The soil, too, a the base of the hedge should be forked over every winter and weeds kept in check.

Statuary and Garden Furniture.—The day has gone by for an excessive display of statuary in gardens. If, how ever, such ornaments are used they should be placed not too far from the house, where they will be more in character Vases in that case look well on the pillars of steps leading from the house to the terrace or gravel path; on the steps descending a terrace or alongside the margin of a terrace. They are quite out of place dotted about the lawns. Sundials are more in harmony in the middle of a geometrical arrangement of beds, or in an out-of-the-way corner. Fountains, if employed at all, should be of simple design, and not placed too prominently in the centre of the lawn, as is often the case, and thus spoil the view from the house. Personally we dislike these artificial

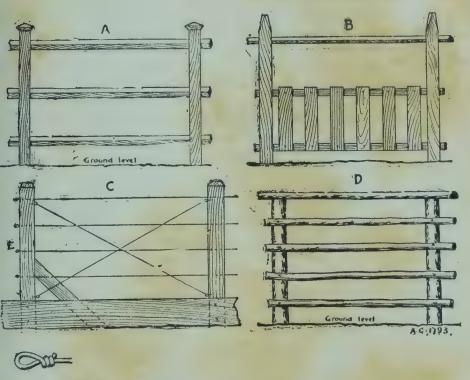


Fig. 19. OPEN FENCES.

EXPLANATION.—A is an open rail fence suitable for a temporary protection to a young hedge; B. a similar fence with short pales on bottom to exclude rabbits and dogs; C, a wire fence; D, a simple fence of larch poles.

creations. We consider a simple pond, planted with aquatics and fringed with waterside plants, far more pleasing. Single jets may be introduced into such ponds, but they should never obtrude themselves too prominently. What we want to see in the garden beautiful is not inanimate objects like fountains and statuary, but real living vegetation artistically and pleasingly disposed. And as to garden seats. These also

should be of some simple rustic design, and be placed near trees that will afford a grateful shade and at the same time



Fig. 20. A SIMPLE SUNDIAL.

command a view of some pretty feature in the garden. Seats of a more elaborate design, like Fig. 21, may fitly occupy a position close to the mansion.



Fig 21. SUGGESTION FOR A GARDEN SEAT.

Boundary Walls.—In small gardens bounded by walls and where there is no room to screen these by planting trees and shrubs, recourse must be had to covering them with climbers and creepers to make them beautiful and interesting. There are plenty of the latter plants available for the purpose. Thus, a north wall or fence may be covered with Ivy or Virginian creeper, or Evergreen Roses; an east aspect with Roses, Clematises and Fire-thorn; a west wall or fence with still choicer Roses, Clematises, Everlasting Peas, Ceanothuses, etc.; and a south aspect with Roses, Wis-

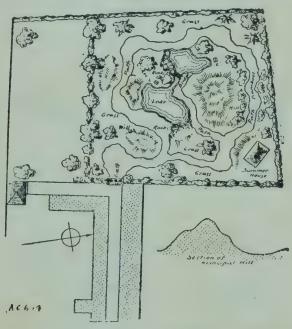


Fig. 22. PLAN OF A JAPANESE GARDEN.

EXPLANATION.—This gives a rough idea of the way in which a Japanese garden should be fashioned on the lines indicated in letterpress.

tarias, Passion Flowers, Jasmines, Honeysuckles, and so on-Bare walls or fences should not be tolerated whilst there is such a wealth of lovely climbers suitable for the purpose. The same remarks apply to the walls of the dwelling.

The Japanese Garden -Of late years several attempts have been made to introduce the Japanese style of gardening as a feature of an English garden. Such a feature is, however,

only possible in large gardens where there is plenty of scope to form the miniature lakes and make the miniature undulations of surface. To fashion such a garden, a corner of the garden must, if possible, be chosen that is surrounded by a good screen of trees and shrubs. If no such feature exists then a boundary should be formed of trees and shrubs, of which Almonds, Cherries and Japanese flowering shrubs and evergreen trees form the chief feature. Having done this, excavate



Fig. 23. DETAILS OF JAPANESE GARDEN.

EXPLANATION.—F shows the style of bamboo bridge to construct; G, method of growing Japanese trees in tubs; H, the form of path to lay down in the moist parts of the garden.

a bed for a miniature lake of irregular outline, with a neck in the middle over which to carry a rustic bridge. The soil removed should be placed to form hills of various heights, with small undulating valleys between. A path may take an irregular course round the lake. Between the path and the boundary turf may be used, and Japanese plants and shrubs grouped about it. A summer house or two may be placed in convenient spots to view the garden. Bamboos may be grown here

Ind there in avenues over the paths, groups of miniature pines dotted about the elevated knolls; plenty of Almonds and Cherries dispersed about the garden; and masses of Lilies and trises grown in convenient spots. A Japanese garden must be unconventional in design, in its planting and in the contour of the trees. Oddity and quaintness of shape must be the prevailing feature in all the phases of an artistic Japanese garden. Those who wish to fashion a garden on the lines just menioned should communicate with the author of this work, who will then give them the name of a specialist experienced in designing and planting a Japanese garden. See Figs. 22 and 23.

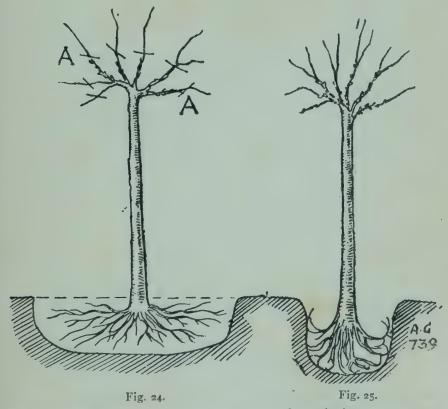
GARDEN PRACTICE.

UNDER this heading we shall deal with all phases of practical work that concern the successful management of a flower garden.

Planting.—Perennials may be planted in September or October, or in March or April. The first period is recommended for light soils, as then the soil is warm and the conditions congenial for the successful establishment of the plants. Where the soil is of a heavy, damp and cold nature the second period is preferable. The spring sunshine and genial showers will then assist the plants to make new roots more readily than in the case of autumn planting. Winter planting is not recommended; the soil is then too cold, and there is always a risk of the plant dying. When the plant arrives, if the roots are in the slightest degree dry, throw them not a vessel of water for an hour or so before planting. In planting, open a fairly wide hole, spread the roots out evenly, cover with fine earth, give a gentle shake, add more soil, and

press the latter down firmly around the collar of the plant. Never make a small hole and thrust in the roots in a bundle. Plants with straight, fleshy or tap roots should have holes deep enough for them to go down their full length. Plants with rhizomatous roots should always have the rhizomes near the surface. Alpines are generally supplied in pots. the latter always in water before planting to ensure the soil being thoroughly moist, otherwise the plant will afterwards wither and die owing to the dryness of the ball of soil. In planting pot plants, merely remove the drainage and disentangle the lower roots. Bulbs require planting at various seasons according to their periods of growth or ripening. The precise periods are mentioned in connection with each genus. Generally speaking, winter and early spring flowering kinds, like Snowdrops, Scillas, Irises, and Chionodoxas, are best planted in September; spring flowering sorts in October or early November: summer flowering ones in March or April. Bulbs, like Snowdrops, and Crocuses, if planted in December rarely do well, and even Narcissi, unless the bulbs have been stored in a cool place, do not flower satisfactorily if planted so late. The depths and distances are given in connection with each genus. Roses are best planted in October and November, or in March. When planted in winter, tender Teas, Hybrid Teas, and Chinas are apt to get killed in severe winters. See remarks also in connection with the genus further on. Deciduous trees and shrubs should be planted in October and November. They may also be planted in December in mild seasons. If planting cannot be done then, defer it to February. Evergreen trees and shrubs are best planted in September or October, or in May. Never plant in the winter if it can be avoided, and always give due preference to September and October. When the trees arrive from the nursery examine the roots, and if dry, place them in water for a few hours to get cut off any injured parts. When planting dig out good wide holes to admit of the roots being fully spread out. As regards depth, this should be governed by the soil mark on each stem. The soil mark is the spot showing how far the stem has previously been buried in the soil. Generally speaking, the depth of soil above the roots is six inches, and if the soil mark cannot be clearly seen, cover the roots to the depth just

mentioned. No manure should be mixed with the soil for trees or shrubs. If a soil be naturally heavy, use some good soil to cover the roots and fill up with ordinary soil. In planting, carefully work the soil between the roots and give the bush or tree an occasional shake to settle the soil. When the roots are well covered tread the soil down firmly, then fill up the hole and again tread well. Standard trees should have a good stout stake driven in beside the stem before the roots are covered with soil. This precaution prevents injury to the



EXPLANATION.—Fig. 24 shows the proper way to plant a shrub or tree, and Fig. 25 the wrong way to do it.

roots by driving the stake in afterwards. When the planting is finished, wrap a piece of sacking round the stem of the tree, then secure the stem and stake tightly by means of stout tar twine. In dry seasons evergreens planted in May or September should at once have a copious supply of water, and it is also a wise precaution to syringe the foliage every evening

By adopting this precaution conifers especially will not be so liable to turn brown and unsightly later on. On light soils a heavy mulching of old manure will be beneficial. Planting of any kind is best done when the soil is neither excessively wet nor dry.

Transplanting.—Perennials and alpines may be transplanted in October and November or in March. At the same time, too, the roots may be divided if necessary. Bulbs and tuberous rooted plants should be transplanted when their foliage withers. An exception must be made in the case of Lilium candidum. As this is practically evergreen, the best time to do it is directly after flowering. Roses are best transplanted in October. Evergreen trees and shrubs transplant best in May or September, observing the same precautions as advised for planting in the matter of watering and syringing. Deciduous trees and shrubs should be transplanted directly the leaves begin to fall. In removing large trees and shrubs, lift with as large a ball of soil and roots as possible, have the new site ready beforehand, transfer thereto quickly and immediately cover with soil. Mats should be thrown over the roots during the transference from one place to the other. Very large trees and shrubs require someone who has previous experience of such work to do it satisfactorily.

Pruning.—Here we have a most important operation. Grave errors are often committed in pruning flowering trees and shrubs. The pruning is done in winter, the flowering shoots being thus cut away, and the result is few or no flowers. The proper time to prune flowering trees and shrubs is directly after flowering. Then such shoots as have borne flowers may be cut back to the nearest strong young shoot or shoots that will yield flowers the next season. All flowering trees and shrubs, however, do not need pruning. Those that require it are mentioned in the cultural notes in connection with each genus. In winter the foregoing may have any dead wood cut and all suckers removed. Deciduous trees and shrubs grown for their foliage only should be pruned directly the leaves fall. If large branches are removed always cut back close to the trunk, pare off the edges of the wound neatly with a knife and then paint with Stockholm tar. Evergreen trees and shrubs should

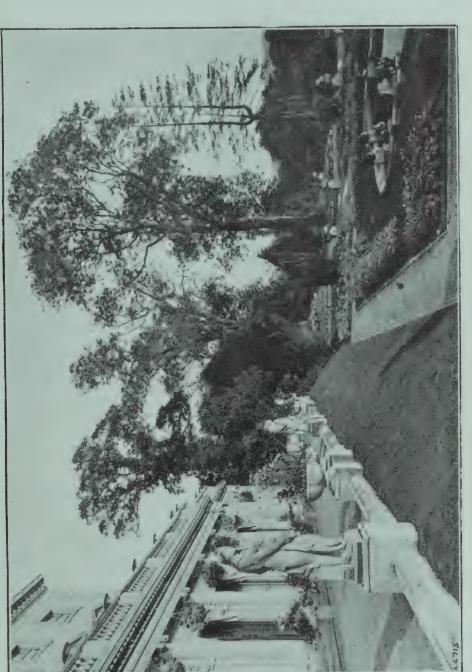
be pruned, where necessary, in April. At that time overgrown Rhododendrons, Laurels, etc., may be severely cut back to encourage a bushy habit. Evergreen hedges, too, are best pruned or trimmed at the same time and again in summer if desirable. Deciduous hedges are best trimmed in summer. If they require shortening do it in winter. Climbers require pruning at the special periods mentioned in connection with each genus. For information about roses see notes in the paragraph on Roses further on.

Watering.—In the case of border plants it is a most unwise thing to give daily sprinklings overhead with can or hose. a border has been properly trenched before planting, the roots will descend deeply and get sufficient moisture below. It is only in shallow worked soils that plants really require artificial watering. In this case fork up the soil around each plant that needs water, and then apply four or five gallons of water around the base of the plant. After watering add a mulch of rotten manure or lawn grass, and the plant will have all the moisture it needs. Surface sprinklings merely refresh the plant for a short period and encourage roots to form near the surface to be broiled or killed by the sun. Plants in beds should also be given a thorough watering at intervals, first hoeing or raking the soil over. Those newly planted out may be given a sprinkle every evening till established. Plants newly placed in borders in hot weather should have a large inverted flower pot placed over them as a protection from hot sun till they get established. In watering lawns, again, people make a serious mistake in sprinkling the grass every evening. The slight moisture brings roots to the surface to be killed by the sun, and hence brown patches are the inevitable result. When lawns need moisture, do a portion only each night, and do this well, then the lower roots will not suffer from drought. In no case water lawns, or beds, or borders whilst the sun is shining. The moist surface gets heated by the sun, the surface roots are destroyed, and most of the water is evaporated also by the sun's rays. Rain or pond water is better than tap water for plants and lawns where it can be obtained.

Mulching.—This term implies the use of a layer of moisture-conserving material, as decayed manure, cocoanut-fibre refuse, leaf-mould, or lawn mowings, as a covering for the

surface of the soil in borders or beds. A mulch of either of the foregoing materials protects the surface roots of plants from the hot rays of the sun and prevents the evaporation of moisture from the soil. On hot, dry, light or sandy soils such a mulch is of the greatest benefit to the plants, and dispenses with the frequent necessity for watering. Even on a lawn, if the machine be used without the collecting box in very dry weather, the short grass distributed acts as a protector of the roots of the grass and as a conserver of moisture below. Wherever possible, therefore, mulch beds and borders in spring and summer.

Care of Lawns.—We have elsewhere dealt with the formation of lawns and tennis courts, and here therefore we have only to deal with the general care and management of them. Assuming a lawn to have been properly made, the main points to observe in its subsequent management are mowing, rolling, top-dressing annually, and keeping it free from weeds. As regards mowing, this should begin in March and end in October or November. The first mowing in the season is best done by means of a scythe in order that bents and coarse grass may be removed. After that the machine may be used once a week at least. It is a matter of great importance to have a machine fitted with good knives, and these so adjusted that they will cut the grass clean, not tear or pull it out. Before the mowing season begins send the knives either to the maker or to a competent ironmonger and get them properly ground; in fact, in the case of a machine that has been in use some years it is better to send the entire machine to be overhauled and put in order. Before starting to use it, turn it over and get a piece of paper and place this between the knives and the lower blade. Revolve the knives to see if they cut the paper clean and true all along. If not, readjust the screws till the desired result be obtained. The next thing is to adjust the front rollers so that the knives do not cut too low, in other words, graze the turf. This point assured, the machine may be used with the collecting box until about June, and from then to September it is best to use it without the collecting box. The cut grass will then serve as a mulch, and at the same time enrich the roots when it decays. In very dry weather set the knives a



A TYPICAL FORMAL GARDEN.

In this instance statuary, terraces, and formal paths and



LARGE GARDEN LAID OUT IN THE ITALIAN STYLE.

A style in favour during the early period of the last century. Examples are to be seen in the larger country homes of the English nobility.

trifle higher, then the slightly longer grass will act as an extra protection to the roots of the grass. When autumn arrives the last few mowings may be a trifle closer. Lawns should be well rolled in autumn and spring, also in winter when the weather is not frosty. In summer roll only directly after rain. Every alternate rolling should be done in the opposite direction.

In autumn, about November, top-dress with basic slag at the rate of four ounces per square yard if the lawn be on a clay soil, and with bone meal at the same rate if on a light or loamy soil. If the turf be at all thin give it a dressing of two parts good soil and one part thoroughly decayed manure, in addition to the slag or bone meal. The compost should be sifted fairly fine and be applied fairly liberally. After it is applied go over the turf and slightly rake it, then give a good rolling. Tenns lawns may be treated in the same way, or, better still, be given a dressing of sand—sea sand is good—and fine charcoal. For forty yards square 3 cwt. of charcoal and two cartloads of sand will be a good dressing. Charcoal and sand, indeed, are splendid materials for lawns of any kind.

Where lawns or tennis courts have become very firm through much treading it is most beneficial to them to slightly loosen the turf as follows: Stretch a garden line across the lawn to mark off a strip a yard wide. Get a digging fork and thrust this in full depth, then give a gentle lift so as to move the turf slightly. Do this at regular intervals till the strip is finished, then mark off another and treat this likewise till the whole is done, and finally top-dress as previously advised. This loosening of the soil and turf encourages fresh root action, and results in a splendid dense growth of grass the next season.

The presence of moss on lawns is an indication of poorness of the soil and absence of proper drainage. The remedy in the first place is an annual liberal dressing of compost as previously advised, and in the second case the lifting of the turf and draining the soil. Before applying compost to mossy lawns well scarify the surface with an iron-toothed rake to detach the moss. In spring sow a good grass seed mixture, rake and roll it in. A good compost for a mossy lawn is two parts soil, one part manure, and one part lime.

Weedy lawns are a great eyesore. Plantains and dandelions should be cut off well into the soil and a pinch of salt put on the root stump left in. Daisies, if not very numerous, may be spudded out with an old knife, or given repeated doses of "lawn sand" at the rate of four ounces per square yard in spring. Badly infested lawns are difficult and expensive to renovate in this fashion, and undoubtedly the cheapest and best plan in the end is to re-turf or sow grass seeds. Some people object to clover and yarrow being present in their lawns. We, however, fail to see any reasonable grounds for objections to these plants. Clover adds to the density of the turf, and yarrow also helps to keep the grass alive in dry seasons. Both certainly add to the "springiness" of the surface. In positions where grass does not naturally do well

clover and yarrow seeds are sown to improve the turf.

Lastly, there is the vexed question of worms. Well, we have never bothered ourselves seriously about them. We know they do infinite good below by tunnelling the soil and providing channels for the escape of surface water and the admission of air to oxidise the crude plant foods below and render them available for the roots of the grass. Moreover, the casts they throw up are rich in plant food, and if these are methodically distributed by sweeping with a birch broom and then rolled down, they provide a top-dressing equal to two tons per acre per annum. If after these facts readers are still sceptical as to their usefulness and want to reduce their numbers, they can apply Carter's Worm Eradicator, a substance in powder form, which has to be well watered in, and the lowly creatures will soon come up in their thousands and have only to be collected and disposed of. Or they can put a stone of fresh lime in an old paraffin cask, fill up with water, and let the solution stand for three days, then draw it off, and apply to the turf with a watering-can. Do this at dusk, and when the worms come to the surface collect and get rid of them. The advantage of using the lime is, it eventually acts more or less as a manure.

Beds and Borders.—Beds should be dug over deeply and well manured for summer plants only. Bulbs do best without manure, so for these it will only be necessary to fork them over just before planting. Borders, if used for summer

plants and bulbs only, should be treated as advised for beds. Where, however, they are to be devoted to perennials they must. as intimated in a previous chapter, be deeply trenched and well manured in the first instance. For the next three years it will only be necessary to top-dress each autumn with well-rotted manure, adding at the same time four ounces of basic slag for heavy soils and four ounces of bone-meal per square vard for those of a lighter nature. In the last case, \(\frac{3}{4} \) ounce of sulphate of potash per square yard will also be beneficial. In spring, when the plants begin to show signs of active growth, lightly prick the surface over with a fork. Later on, and throughout the summer, keep the surface frequently stirred with a small prong or with a hoe to keep down weeds and aerate the soil. quent stirring of the soil in summer cuts off the capillary tubes and arrests the evaporation of moisture. At the end of the third year lift all the plants and bulbs in October, re-trench and manure the soil and then replant. If this practice be adopted grand results in growth and flower will follow. We should also mention that, when herbaceous plants die down. their decayed stems should be removed. A little lime at the rate of one bushel per ten square yards may be added at time of trenching. Shrubbery borders to be kept in good condition should be annually given a top-dressing of rotten manure and leaves in winter, and have this lightly dug in. Most people neglect their shrubberies in this respect, labouring under the erroneous impression that trees and shrubs require no nourishment. In nature the fallen leaves decay and enrich the soil. but in gardens the fallen leaves are removed and nothing is left to nourish the roots.

Weeds.—Weeds must not be tolerated in gardens. They not only rob the soil of food and moisture, but also form a nursery for rearing many insects and fungoid pests that afterwards proceed to attack the cultivated plants. Never allow a weed to reach the flowering stage. The old adage, "One year's seeding will make seven years' weeding" will otherwise prove only too true, and trouble will be in store for the gardener. Hoe, hoe, and weed, weed at every opportunity, giving all intruders no quarter. On garden paths, too, allow no weeds to grow, kill them promptly by an application of "weed killer" or hot brine.

Manures-Mention has been made of these in previous paragraphs, but it will be useful to say a few more words about them and their uses. Three forms of manure are required by all plants, namely, phosphates, potash, and nitrogen. Ordinary animal manures supply all three, but not always in the exact proportions required by some plants. Animal manures have this advantage over artificial manures in that they not only supply essential plant foods, but also mechanically improve the condition of a soil. Thus horse manure lightens a heavy soil and makes it more porous, dry and warm. Cow and pig manure, on the other hand, renders a light soil more compact, and helps it to conserve moisture, and owing to its cool properties, keeps the soil cooler. It will thus be seen that horse manure is preferable to cow or pig dung for a heavy soil, and the latter to the former for a light one. One would make one soil too light and the other render another too cold and heavy—the things one should avoid. Another point too. Animal manures supply humus to soils. Humus is vegetable matter—in which the nutrifying bacteria flourish which are so essential to keeping a soil fertile. Artificial manures are plant foods solely. They do not improve the texture of a soil, but only yield present food for the crops, the rest disappearing in the drainage. It is not possible, therefore, to go on for years using artificial manures only; we must use some animal manures to provide the soil with humus to keep the texture of the soil in good condition.

We may make up for the deficiencies of food in animal manures by using artificials. Thus we may use basic slag, bone-meal and superphosphates to supply phosphoric acid; kainit, muriate and sulphate of potash to supply potash; and nitrate of soda, sulphate of ammonia, and guano to supply nitrogen. If the soil be clay no potash is required, because potash is plentiful in such soils and only needs an occasional liming to set the latent store free. On light or sandy soils potash is more or less absent, and hence a dressing of one of its forms is beneficial. Basic slag may be applied to damp soils in autumn at the rate of four ounces per square yard; bone-meal at the same rate and time on light soils; superphosphate at the rate of one ounce per square yard on light soils in autumn or spring. Kainit should be used in autumn at one ounce per square yard, and sulphate or muriate of potash at $\frac{3}{4}$ ounce per square yard, in

all cases for light soils only. Nitrate of soda is suitable for light or sandy soils, and should be used at one ounce per square yard in spring or summer. Sulphate of ammonia is best for heavy soils. Use at one ounce per square yard in spring and summer. Guano may be used for any soil in spring or sum-

mer at one ounce per square yard.

The specially prepared manures sold in bags or tins, contain all a plant needs as a fertiliser, and these may be used in spring or summer. Liquid manures from the stables or cow byre are also first-rate plant foods if diluted with two-thirds water. Liquid manures may be made by soaking a peck of cow, horse, sheep or poultry dung in 36 gallons of water for a few days, then diluting with two-thirds water. Or guano may be used at the rate of one ounce per gallon of water; one of the advertised manures may be used in a similar way. Lime is excellent for sweetening a sour soil and setting free latent food in the soil. Soot, too, is a valuable fertiliser for sprinkling on the soil or lawn in showery weather. Liquid manures should not be applied to the soil when dry. First moisten the soil thoroughly with water, then apply the manure. Yet another valuable manure is wood ashes. To get these burn all the prunings and woody stems. Preserve the ashes in a dry place till required, then apply them to the soil and dig in. Weeds and leaves, too, should be placed in a heap, have a little salt added to them, be turned over occasionally, and when decayed dug into the borders. Specially prepared Hop Manure is also a good fertiliser for flower gardens. For flower gardening all animal manures are best applied in a decayed, not a fresh state.

THE ART OF PROPAGATION.

THE methods of propagating each genus of trees, shrubs and plants are described in connection therewith, and here, therefore, we have only to deal with the general principles. Flower garden plants, trees and shrubs are increased by seeds, cuttings, layering, division, budding and grafting.

By Seeds.-With regard to seeds, those of hardy kinds, like hardy annuals, biennials, perennials, and many trees and shrubs, may be sown in a shady or partially shaded spot, in the open garden in spring or summer. April is a good month for general sowing. Seeds of annuals may be sown in patches or lines where required to grow or flower, but those of biennials and perennials should be sown in shallow drills 6 in. apart. As regards depth for sowing, very fine seeds merely require to be very slightly covered by fine soil; those double the size by about one-eighth of an inch of soil; and larger seeds, like those of nasturtiums and sunflowers, about half an inch. It is unwise to bury seeds too deeply. Seeds of hardy trees and shrubs should be buried about an inch. Half-hardy annuals are best on a hotbed, or in pans or shallow boxes in a greenhouse heated to 55 and 65 degs. The soil used for pans or boxes should be fairly light and sandy, and be sterilised by heating over a fire, or by placing a red hot iron or brick in the heap of soil on a potting bench before it is placed in the boxes. This precautionary measure kills weed seeds, insects, and the spores of fungi, especially the "damping off" fungus which attacks the stems of young seedlings, and causes them to droop and wither. The essential conditions for successful germination are moisture, a certain amount of heat, and darkness. In the case of hardy kinds sown outdoors, a good watering should be given after sowing if the weather be dry, and the seed bed be protected from sun by covering it with branches of evergreens or garden mats till the seeds sprout, then gradually expose to the light. Those sown on a hotbed should also be shaded with mats till the seedlings show

hrough the soil, after which shade only from hot sun. When to be sown in pans or boxes, before sowing, hold the latter in repid water till the soil is moist, then sow the seeds, cover according to size with fine soil, again hold in the water till the atter reaches the soil, then cover with a sheet of glass and a piece of paper. Treated thus the soil should need no more noisture till the seeds sprout, when moisten again in the same way, remove the paper except when the sun is shining, and when the seedlings are well through the soil, the sheet of glass also. Whether sown outdoors or indoors, as soon as the seedings have developed the first true leaf, that is, the first leaf peyond the pair of seed leaves (Cotyledons), transplant them carefully. Hardy biennials and perennials should be transplanted 4 to 6 in. apart in a nursery bed during showery veather. This will ensure the plants making plenty of fibrous oots, and a sturdy habit of growth. In the autumn, or earlier. such plants can then be transplanted to their permanent posiions to flower the following year. Seedlings that are left in he seed bed till required to plant out permanently become starved and attenuated in growth, and rarely do well aftervards. In a similar way tender kinds sown under glass or on notbeds, should be transplanted in boxes or pots, shaded for day or so, then placed on a shelf near the glass till the end of April, and afterwards hardened off in cold frames prior to planting out in the garden. Special treatment for each genus vill be found in the cultural details supplied further on.

By Cuttings.—These are usually prepared from soft or hard wooded shoots. Viola, Pentstemon, and Pelargonium shoots are examples of the former, and Lilacs, Privets, etc., of the latter. Soft-wooded cuttings are prepared from the ends of young shoots, and vary from 2 to 6 in. in length, according to the plant hey are taken from. The base of the shoot has to be cut off close o a joint and the lower pair of leaves (and the next pair above in some instances) removed. The object of cutting off close o a joint is, because there is a reserve stock of material in the oint to assist the wound to callus or heal over quickly, and hus facilitate the rooting process. In the case of Violas and many other plants, young shoots may be readily obtained cuttings are available for use in spring or summer, when

growth is active. Hard-wooded cuttings are formed from shoots of the current year's growth when it has become fully matured, as in September and October. The cutting is formed from a shoot, with or without leaves, 6in. or 8in. long. The

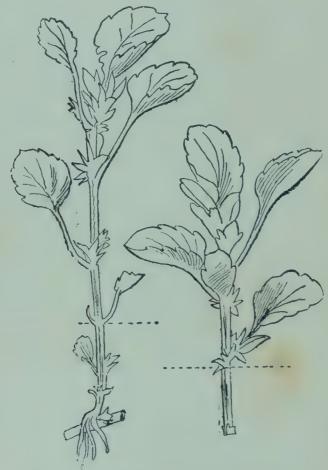


Fig. 26. SPECIMENS OF CUTTINGS.

EXPLANATION. The left-hand illustration shows a cutting of a Pansy or Viola, removed from the parent plant with roots already formed; and the right-hand illustration, a young shoot removed without roots and properly prepared as a cutting. The dotted lines show the depth to plant the cuttings in the soil.

base is cut off close to a joint, and the tip also removed close to a bud. In the case of deciduous shrubs it is usual to remove the latent buds from the lower half, leaving three or so at the top only. The object is to prevent shoots or suckers forming below the soil, and to promote the more vigorous

growth of those above. Other forms of cuttings are small side shoots 2 in. or 3 in. long, removed with a thin slice of the older branch. Such a cutting is said to be removed with a "heel." Cuttings of coniferous and other shrubs are prepared in this fashion. Then there are root cuttings prepared from portions of roots cut up into small portions, as in the case of the wild Clematis for forming stocks for grafting. There are also lcaf cuttings, as the fleshy leaves of Echeverias and succulentleaved plants generally. For rooting soft-wooded cuttings of tender plants a gritty, open soil is required. For ordinary bedding plants any old potting mould with plenty of sand will do. For choicer kinds, leaf mould, peat, and sand, or sand alone, may be needed. The pots or boxes should be well drained, and the soil made firm. Tender, soft-wooded cuttings root more quickly in a close propagating frame, or under a bell glass, where the moisture is uniform, and there is little or no evaporation of moisture from the leaves taking place. If the leaves of cuttings are permitted to droop the latter often fail to root. Keep the frame closed, except for a few minutes every morning, to disperse foul air, and gently dew the foliage with warm water. As soon as the foliage assumes a firm appearance and there are signs of growth, gradually give more air, and a few days afterwards remove the cuttings from the frame, and shortly afterwards transfer them to pots or boxes. Cuttings of evergreen shrubs usually do best in a cold frame. Insert in a good bed of sandy soil. make the latter firm, give a good watering at first, keep the frame closed for a week or two, and shade from sun. After the first month air may be given freely. Such cuttings should not be disturbed until the following autumn. Cuttings of deciduous shrubs, ivies, etc., should be inserted half their depth, in a shady border. Place them 2in. or 3in. apart in rows 1ft. asunder, and make the soil firm. Transplant the following autumn. Violas, Calceolarias, and similar hardy, soft-wooded cuttings are best inserted in a cold frame. In inserting cuttings use a piece of wood about the size of a cedar pencil, and only make the hole deep enough to admit the cutting. The base of the cutting should rest firmly on the bottom of the hole. If a hollow space is left below the cutting will rot. For other special hints about cuttings see cultural remarks in connection with each genus (see Figs. 26 and 27).

By Layering.—In the case of carnations the soil has to be loosened to a depth of 2in. or 3in. around the plant, and 2in. or so of a mixture of sand, leaf mould, and good soil placed on top. The next step is to remove the leaves from the lower part of each shoot, cut the shoot half-way through and then upwards

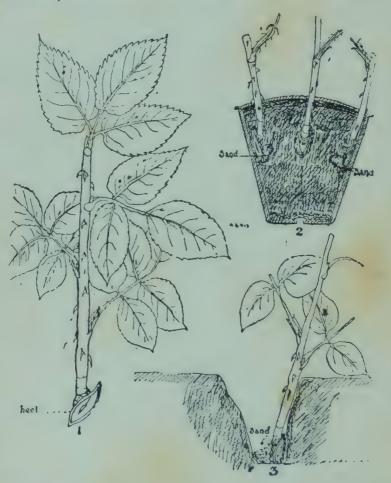


Fig. 27. PROPAGATING ROSES BY CUTTINGS.

EXPLANATION.—Fig. 1, a properly made cutting with a "heel" of old wood at its base; Fig. 2, Section of cutting pot; Fig. 3, Cutting inserted in outdoor bed.

for tin. or so to form a tongue. Make a hollow space tin. or so deep in the compost, bend the shoot down firmly on the bottom, fix the shoot with a layering pin or peg, and cover with soil. Treat each shoot thus, and then give a good watering now and then if the weather be dry. In October

the shoot may be severed from the parent stem, and either planted or potted, and kept in frames till spring. Clematises may be layered in a similar way. Hardy shrubs are done in the same fashion in summer or early autumn. In their case, however, the layered shoots must not be severed till the following autumn (see Fig. 28).



Fig. 28. HOW TO LAYER CARNATIONS.

By Division.—Division is another simple mode of propagation. Lift the plants in autumn or March, and divide the roots into several portions, each having roots attached. When dividing hardy perennials, also, choose the outer portions of the plant for replanting, these being more vigorous than the centre or original plant. In the case of bulbs remove the offsets only.

By Budding.—Budding is an easy operation, once its principles are fully grasped. The chief point is in the selection of the bud. The bud should not be too little or too fully developed. To obtain a bud use a keen knife, and commence about ½in. above and cut out a semi-circular piece, finishing ½in. below the bud. Cut off the leaf also to within rin. of its base. Turn the bud over, and with the point of the knife and thumb seize the wood at the upper end just beneath the bark, give it a gentle pull so that it comes

away and leaves the bark only. If, when removed, a hole is seen beneath the site of the bud, discard it and get a fresh one. If the next shows no hole the bud is a good one, and

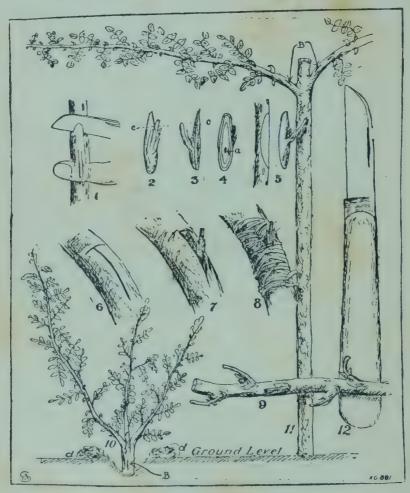


Fig. 29. HOW TO BUD ROSES.

EXPLANATION.—Fig. 1, Cutting out the bud; Figs. 2 and 3, Front and side views of bud—C, Where to trim; Fig. 4, Back view of bud—A, Seat of bud or eye; Fig. 5, Branch showing bud removed; Fig. 6, "T" cut on stock for inserting bud; Fig. 7, Bud inserted; Fig. 8, Bud tied in; Fig. 9, Branch with leaves trimmed ready for cutting out buds; Fig. 10, Bush brier—B, Where to bud; d, removed soil; Fig. 11, Standard brier—B, Where to bud; 12, Budding knife.

you have what is known as the "shield," to place in your mouth to keep moist till it is ready to be inserted into the stock. The next business is to select a shoot of the current year's growth, and on the upper side of this, close to its union

with the stem, make a longitudinal slit in the bark rin long. At the upper end you then make a cross incision half-way round the shoot. With the ivory blade of your budding-knife lift the bark on each side, then take the shield out of your mouth, insert the lower end under the bark and gently press it along till it has reached the bottom. Close the bark neatly over, and then bind round worsted or bast fairly firm below and above the bud. Do this in July or early in August, and late in September loosen the ligature. If your operation has been successful the bud will look plump and fresh, and will grow next spring; if not it will have a black and shrivelled look, and will not grow. See the different genera for stocks and other details (see also Fig. 29).

By Grafting.—Grafting is usually done in March, just when the sap is on the move. The scions or shoots which it is desired to graft on to a stock should be cut off in January and buried in damp sand or soil outdoors to keep the sap dormant. These remarks apply to deciduous trees and shrubs. Grafting in their case is much more likely to be successful if the stock is more forward than the scion or graft. In the case of evergreen trees and shrubs this precaution is not necessary. The simplest form of grafting is the whip method. This consists of taking a thin slice off one side of the stock, and making a slight downward cleft across the top of the cut. A similar slice is taken off the scion or graft, and an upward cleft made at the top to form a slight tongue. The tongue of the cleft on the scion is then fitted into the cleft of the stock, and the one side of the scion made to fit exactly the same side of the stock. It does not signify about the two sides meeting, but the one side must do so, so that the sap from the cambium layer of each may readily pass to each other and form a union. When this is done secure the two firmly with bast, and then cover the whole of the bast and the wounds with grafting wax so as to exclude air. If the grafting has been skilfully done the scion will grow in due course. Roses have to be grafted in heat in the same way, but no wax is necessary in this case. Many other shrubs and plants have to be done under glass also. For a fuller description of the art of propagation see "The Alphabet of Gardening" issued by the Publishers of this work.

FLOWER GARDEN DECORATION.

Colour Arrangements. - It is unnecessary to teach those readers who possess a natural or acquired knowledge of the laws of colour anything about the importance of arranging flowers, etc., in gardens with a view of obtaining the most artistic effect as regards colour harmony. But this book may fall into the hands of readers who have not studied the subject, or who may desire to know something about it. In these times more and more attention is being paid to this all-important subject, and certainly no one can claim to possess a garden beautiful who fails to adopt some definite and pleasing colour scheme in the arrangement of hardy flowers, bedding plants, and other floral features of the garden. It is not enough to display the utmost good taste in the adornment of the home, and neglect it in the garden. It therefore behoves the owner of a garden to at least take his share in the artistic disposition of the plants employed for its adornment, if he cannot attend to the more practical work of cultivation. By doing so he will avoid seeing his summer or spring bedding an ill-assorted and hideous jumble of colours, and his hardy plant borders equally wanting in refinement and good taste. In colour schemes for gardening purposes we have the choice of two methods—harmony and contrast. The first means a series of colours passing from one to the other in such a way as to yield a progressing harmony or blending of colour throughout. Thus, starting in a hardy plant border, the colours should follow each other in the following order: deep blue, light blue, pale yellow, white, pink, rose, crimson, scarlet, orange, bright yellow, pale yellow, lilac, lavender, purple, and violet. Arranged in the foregoing order, and in good bold masses, a most pleasing harmonious effect is obtained. Contrast effects are obtained by placing blue and orange opposite or near each other; yellow and purple; scarlet and blue; yellow and magenta; and so on; but the effects are never so pleasing as in the preceding case. In bedding arrangement shades of red, including pink, rose, salmon, and scarlet; purple, lilac, and yellow; crimson, blue, white, and pale green; or shades of yellow and orange go well together. White may be used in association

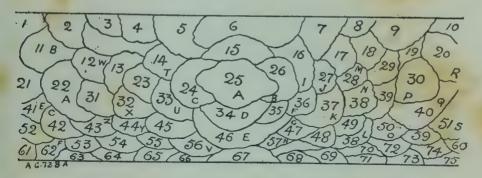


WILD GARDENING—FOXGLOVES GROUPED IN THE GRASS.

A shady spot turned to a pretty advantage by growing foxgloves in bold masses. See p. 28.

WILD GARDENING-A FERN-FRINGED STREAMLET.

with any colour, especially for softening down the stronger colours. Scarlet and yellow should never be used together, nor purple and crimson. To get good effects in borders, each kind of plant used should be planted in a mass, not singly. Plant at



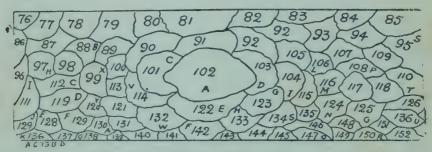
Plan T. SCHEME FOR PLANTING A SUNNY BORDER.

List of Plants: 1, Snowberry Tree (Symphoricarpus racemosa); 2, Eupatorium purpureum; 3, White Lilac; 4, Mauve Lilac; 5, Mauve Michaelmas Daisy; 6, Viburnum Opulus; 7, Chrysanthemum uliginosum; 8. White Foxglove; 9, Golden Elder; 10, Cistus ladeniferus: 11, Hedysarum coronarium; 12, Papaver orientale Salmon Queen; unnumbered space, Eulalia japonica; 13, Achillea Eupatorium; 14, White Delphiniums; 15, White Hollyhocks; 16, Tall crimson Antirrhinums; 17, Tall cerise and White Phloxes; 18, Golden Rod; 19, Pampas Grass; 20, Clematis montana, trained up a rustic pole; 21, Doronicum austriacum; 22, Gaillardias; 23, Hardy Fuchsia: 24, Cerise Phloxes; 18, Golden Rod; 19, Pampas Grass; 20, Clematis montana, trained up a rustic pole; 21, Doronicum austriacum; 22, Gaillardias; 23, Hardy Fuchsia: 24, Cerise Hollyhocks; 25, Claret-coloured Hollyhocks: 26, Lemon Hollyhocks; 27, Double Crimson Pæonies; 28, Lilium candidum; 29, White Michaelmas Daisy; 30, Clematis montana on a pole; 31, Iris florentina; 32, Achillea Ptarmica fl.pl.; 33, Chrysanthemum maximum; 34, White Sweet Peas; 35, Purple German Iris; 36, Aquilegia Munstead White; 37, Striped Antirrhinums; 38, Cerise or salmon Sweet Williams; 39, Polemonium caruleum album; 40, Helianthus Miss Mellish: 41, White Phlox; 42, Crimson Clove; 43, Physalis Franchetti; 44, Helenium Bolanderi; 45, Purple Aquilegias; 46, Yellow Antirrhinums; 47, Cerise Phlox; 48, Sidalcea candida; 49, Aquilegia chrysantha; 50, Scabiosa caucasica; 51, Centaurea montana alba; 52, Double White Sweet William; 53, Cerastium tomentosum; 54, Crimson Potentillas; 55, Chrysanthemum Madame Desgrange; 56, Gypsophila paniculata; 57, Carnation Germania; 58, Pale and White Roses; 59, White Iceland Poppies; 60, Aster alpinus; 61, White Pansies; 62, Astilbe Japonica; 63, Campanula carpatica alba; 64, Yellow Primroses; 65, Dwarf Golden Wallflowers; 66, Genista sagittalis; 67, White Pinks; 68, Mauve Violas; 69, Lemon Iceland Poppies; 70, Yellow Pansies; 71, Aubrietia græca; 72, Achillea Clavennæ; 73, Red Pansies; 74, Doronicum Harpur Crewe; 75, White Violas.

List of Bulbs: A, White Early Gladioli; B, Purple Spanish Irises; C, White Spanish Irises; D, Scilla nutans; E, Narcissus poeticus; F, Yellow Jonquils; G, Yellow Tulips; H, Golden Spanish Irises; I, Maroon Darwin Tulips; J, White and Lilac Darwin Tulips: K, Polyanthus Narcissi; L, Purple Crocuses; M, Yellow Ranunculi; N, Iris florentina; O, Cream-coloured Hyacinths; P, Narcissus poeticus; Q, Purple Hyacinths; R, Gladiolus Lemoinei: S, Double Yellow Daffodils; T, Tritonia aurea; U, Double Yellow Daffodils; V, Golden Crocuses; W, Blue Spanish Irises; X, Leucojum æstivum; Y, Mauve Crocuses; Z, Wh

least three or six plants of each kind. The colour arrangement should not be too formal in its outline. Each mass of blue or yellow should vary in shape so that the whole may mingle together into a harmonious whole.

Flower Borders.- To have a really bright and interesting border of hardy perennials, annuals, and bulbs, considerable care and taste are required in planting. We have already referred to the importance of studying colour effects in the



CONTINUATION OF PLAN I.

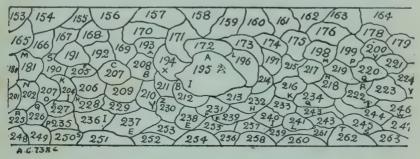
LIST OF PLANTS: 76, Cistus ladaniferus; 77, Pale Rose Hollyhock; 78, Lupinus arboreus; 79, Lathyrus latifolius; 80, Campanula pyramidalis; 81, Romneya Coulteri; 82, Spiræa aruncus; 83, Rhododendron (Azalea) ledifolia; 84, White Broom (Cytisus albus); 85, Rose Pæony; 86, Clematis montana on a pole; 87, Tall White Michaelmas Daisy; 88, Pale Blue Delphinium; 89, Echinops ruthenicus; 90, Corysanthemum uliginesum; 91, Rose Hollyhock; 92, Chrysanthemum maximum; 93, White Foxgloves and Anchusa italica; 94, White Single Pæony; 95, Valeriana officinalis alba; 96, Helianthus Miss Mellish; 97, Galeg i officinalis alba; 98, Anemone japonica; 99, Campanula persicifolia; 100 Lilium candidum; 101, Pale Blue Delphinium; 102, Deep Blue Delphinium; 103, White Delphinium; 104, Tall White Phlox; 105, Pentstemon glaber (yananthus; 106, Anemone japonica alba; 107, Papaver orientale Blush Queen; 108, Tall White Early Chrysanthemum; 109, White English Irises; 110, Double White Pyrethrum; 111, Centaurea montana alba; 112, Incarvillea Olgæ; 113, Iris florentina; 114, Anemone japonica rosea; 115, Linaria naibonense; 116, Achillea Ptarmica fl.pl.; 117, Veronica spicata rosea; 118, Pentstemon lilac variety; 110, Centaurea montana; 120, Lychnis vespertina; 121, Dicentra spectabilis; 122, Tall rose Phlox; 123, Anemone Japonica rubra; 124, Achillea millefolium roseum; 125, Polemonium himalayica; 126, Armeria cephalotes; 127, Aster alpinus; 128, Dwarf early white Chrysarboreus; 79, Lathyrus latifolius; 80, Campanula pyramidalis; 81. Romneya Coulteri; layica; 126, Armeria cephalotes; 127, Aster alpinus; 128, Dwarf early white Chrysanthemum; 129, Lychnis viscaria splendens; 130; Veronica gentianoides; 131, Iris sibirica G. Waliace; 132, Double rose Pyrethrum; 133, Polemonium Richardsoni; 134, Rose single Pyrethrum; 135, Saxifraga granulata fl.pl.; 136, Aquilegia glandulosa; 137, Veronica rupestris; 138, Campanula carpatica alba; 130, Polemonium reptans; 140, White Iceland Poppy; 141, Myosotis Victoria; 142, Double White Silene; 143, Lychnis alpina; 144, Saxifraga hypnoides; 145, Lithospermum prostratum; 146, Pansies; 147, Veronica saxatilis; 148, Myosotis azorica; 149, Tradescantea cærulea; 150, Veronica officinalis rosea; 151, Aquilegia alba; 152, Myosotis sy vatica.

List of Bulbs: A, White Spanish Irises; B, White Double Tulips; C, Tulip Cottage Maid; D, Blue Hyacinths: E, Paper White Narcissi; F, Scilla sibirica; G, White Scilla nutans; H, Single White Tulips; I, Ornithogalum pyramidale; J, Oxalis floribunda; K, Muscari Heavenly Blue; L, Lilium Martagon album; M, Poet's Varcissi; N, Pink Hyacinths; O, Chionodoxa sardensis; P, Allium azureum; Q, White Hyacinths; R, Scilla cernua; S, Galtonia candicans; T, Scilla hispanica grandi.lora; U, Poet's Narcissi; V, Gladiolus Colvillei roseus; W, Narcissus orientalis; X, Gladiolus Colvillei, The Bride; Y, Leucojum æstivum; Z, Chionodoxa luciliæ rosea. layica; 126, Armeria cephalotes; 127, Aster alpinus; 128, Dwarf early white Chrys-

rosea.

preceding paragraph. At the same time we must also bear in mind the necessity of choosing suitable kinds of plants to group together so that there may be a continued succession of flowers from spring to autumn. Thus plants or bulbs that

flower in spring should have as near neighbours those that blossom in summer, and these again adjoin those that flower in autumn. There is nothing to surpass a good mixed border in interest or beauty. Bulbs will thrive happily between perennials, and hardy and tender annuals and other summer plants



Plan 3. CONTINUATION OF PLAN II.

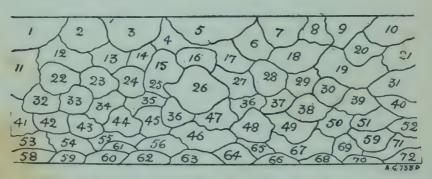
List of Plants: 153, Rose Pæony; 154. (Enothera Lamarckiana; 155, Centaurea babylonica; 156, Gunnera scabra; 157, White Lilac; 158, Hydrangea paniculata grandiflora; 159, Ferula communis; 160, Helenium autumnale superbum; 161, Crambe cordifolia; 162, Campanula pyramidalis alba; 163, Eremurus Bungei; 164, Cytisus scoparius (Yellow Broom); 165, Valeriana officinalis alba; 166, Yellow Foxglove; 167, Achillea Eupatorium; 168, Helianthus Səleil d'Or; 169, Acanthus latifolius; 170, Helianthus maximus; 171, Double White Hollyhock; 172, Double White Pæony; 173, White Delphinium; 174, Lychnis chalcedonica rubra; 175, Heliopsis lævis; 176, Campanula grandis alba; 178, Lychnis chalcedonica; 179, Centaurea ruthenica; 180, Double White Pyrethrum; 181, White Clove Carnation; 190, Campanula persicifolia alba; 191, Heliopsis scabra; 192, Double White Pyrethrum; 103, Kniphofia nobilis; 194, Chrysanthemum uliginosum; 195, Oriental Poppy; 196, White German Iris; 197, Kniphofia corallina; 198, Papaver bracteatum; 199, Helianthus Bouquet d'Or; 200, Helenium Bolanderi; 201, Armeria cephalotes; 202, Yellow Iceland Poppy; 204, Hemerocallis flava; 205, White early Chrysanthemum; 206, Alstromeria aurea; 207, Delphinium cardinalis; 208, Physalis Alkekengi; 209, Lilium croceum; 210, Coreopsis grandiflora; nava; 205, White early Chrysanthemum; 200, Astromeria aurea; 207, Delphinium cardinalis; 208, Physalis Alkekengi; 209, Lilium croceum; 210, Coreopsis grandiflora; 211, Lobelia cardinalis; 212, White Phlox; 213, Chrysanthemum maximum; 214, Geum atrosanguineum; 215, Centaurea macrocephala; 216, Trollius Fortunei, fl. pl.; 217, Fuchsia globosa; 218, Physalis Franchetti; 219, Alstromeria aurea; 220, Lychnis chalcedonica; 221, Pentstemon barbata; 222, Trollius gigantea; 223, Monarda didyma; 224, Coreopsis lanceolata; 225, Aquilegia glandulosa; 226, White Pinks; 227, Trollius asiaticus; 228, Anthericum bliago; 229, White Aquilegia; 230, Potentilla, Trollius asiaticus; 228, Authericum Iliago; 229. White Aquilegia; 230, Potentilla, atrosanguinea; 231, Scarlet Carnation; 232, Alstromeria aurantiaca; 233, Dicentra spectabilis; 234, Delphinium nudicaule; 235, Cheiranthus Marshalli; 236, Centaurea montana alba; 237, White, Lemon, and Orange Iceland Poppies; 238, Helenium pumilum; 239, Pentstemon scarlet; 240, Gaillardias; 241, Scarlet Carnations; 242, White Carnations; 243, Cheiranthus alpinus; 244, Erigeron Coulteri; 245, Dianthus requeni; 246, Eremurus altaicus; 247, Malva moschata alba; 248, Myosotis sylvatica; 249, Viola Lemon Queen; 250, Arabis Albida; 251, Alyssum Saxatile; 252, Authemis Mrs. Brooks; 253, White Pinks; 254, Adonis pyrenaica; 255, Lychnis viscaria alba; 236, Arabis variegata; 257, Cerastium tomentosum; 258, Ourisia coccinea; 259, White Pinks; 260, Adonis vernalis; 261, White Pinks; 262, Mimulus cardinalis; 263, Achillea tomentosa.

White Pinks; 200, Adoms vernans; 201, White Pinks; 202, Mimulus cardinalis; 203, Achillea tomentosa.

List of Bulbs: A, Gladiolus gandavensis; B, Yellow Gladioli; C, White Gladioli; D, White Tulips; E, Yellow Tulips; F, Galtonia candicans; G, Polyanthus Narcissi; H, Gladiolus brenchleyensis; I, Allium neapolitanum; J. Tritonias; K, Bloomeria aurea; L, Duc Van Thol Tulips; M, Double White Tulips; N, Poet's Narcissi; O, Parrot Tulips; P, Schizostylis coccinea; Q, Tritonia aurea; R, Leucojum æstivum; S, Anemone fulgens; T, Yellow Crocuses; U, White Spanish Irises; V, Yellow ditto; W, Allium Moly; X, Double Yellow Tulips; Y, Double Scarlet Tulips; Z, White Hyacinths.

Hyacinths.

may find a congenial home in odd places. It is an easy matter to fill up vacant spots in June with such plants and so make a full border. As a guide to the beginner in planting a mixed border, we will give a few sketch plans to show how the plants and bulbs should be arranged with a view to colour effect and continuity of blossom.



Plan 4. SCHEME FOR PLANTING A SHADY BORDER.

List of Plants: 1, Eupatorium altissimum; 2, Vitis Coignetia; 3, Viburnum lantana; 4, Solidago canadensis; 5, Variegated Snowberry (Symphoricarpus); 6, Verbascum Chaixi; 7, Ribes sanguineum; 8, Spiræa gigantea; 9, Laurustinus; 10, Pillar of Giant Ivy; 11, Lythrum virgatum Rose Queen; 12, Foxgloves; 13, White and Cerese Phloxes; 14, Golden Rod; 15, Jasminum nudiflorum supported by tree stump; 16, Cotoneaster Buxifolia; 17, Purple Honesty; 18, Funkia Sieboldi variegata; 19, White Honesty; 20, Senecio macrophyllus; 21, Polygonum cuspidatum; 22, Fuchsia coccinea; 23, Spirata Thunbergii; 24, Thalictrum flavum; 25, same as 15; 26, Cytisus albus; 27, White Foxgloves; 28, Hemerocallis flava; 29, Mauve Michaelmas Daisy; 30, Berberis Thunbergii; 31, Euonymus angustifotius; 32, Polygonum molle; 33, Eryngium alpinum; 34, Pink Phlox; 35, Chrysanthemum uliginosum; 36. White Phlox; 37, Crimson and Mauve Phloxes; 38, Double Gorse; 39, Lysimachia clethroides; 40, White Michaelmas Daisy; 41, Cimicifuga racemosa; 42, Hypericum aureum; 43, Petasites fragrans; 44, Berberis vulgaris; 45, Rudbeckia Newmanni; 46, Hypericum calycinum; 47, Primula japonica; 48, Podophyllum peltatum; 40, Hypericum androsamum; 50, Helleborus niger; 51, Campanula macrantha; 52, Yellow Foxglove; 53, Cardamine trifoliata; 54, Vinca mimon variegata; 55, Lysimachia verticilliata; 56, Hypericum calycinum; 58, Myosotis palustris; 50, Alyssum saxatile; 60, Polyanthuses; 61, Coloured Primroses; 62, Pulmonaria angustifolia; 63, Primula rosea; 64, Pansies; 65, Epimedium rubrum; 66, Polygonum affine; 67, Lysimachia nummularia; 68, Arabis albida; 69 and 70, Omphaloides verna; 71, Aquilegias; 72, Yellow Primroses, Narcissi, Snowdrops, Winter Aconites, Spillas, Crocuses, and Lilies of the Valley may be planted between the perennials.

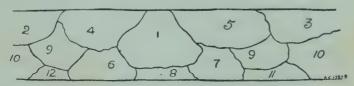
Plan I shows the hardy plants arranged in irregular bold masses, the prevailing colours being crimson, cerise, purple, lavender and gold.

Plan 2 shows a continuation of the same border with the colours leading on from the cerise, crimson and gold of Plan 1 to rose pink and blue freely interspersed with white.

Plan 3 gives a further continuation of the border planted with flowers of a yellow tint leading up through orange to

scarlet, and completes the scheme of planting a border 8 to 12 feet wide and 50 yards long with a selection of pretty perennials and bulbs.

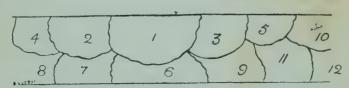
Plan 4 illustrates a scheme for planting a shady border effectively with a selection of pretty hardy perennials and shrubs. In all cases the perennials should be planted in bold irregular masses as shown by the outlines of the spaces.



Plan 5. BORDER OF HARDY ANNUALS.

REFERENCES.—I, Shirley Poppies, mixed, 20in.; 2, Mikado Poppy, white and scarlet, 2ft.; 3, White Swan Poppy, 2ft.; 4, Helianthus cucumerifolius Stella, gold, 3ft.; 5, Miniature Sunflowers, gold, 3ft.; 6, Godetia, Duchess of Albany, white, ft.; 7, Whitlavia grandiflora alba, white, ft.; 8, Dwarf Crimson Nasturtiums, 6in.; 9, Yellow annual Lupins, 2ft.; 10, Chrysanthemum tricolor, 11ft.; 11, Linum rubrum, crimson-scarlet, 1ft.; 12, Nasturtium, King Theodore, crimson, 6in.

The idea is to make the whole blend into one harmonious and pleasing mass of colour. In planting a really effective and interesting border plants should be chosen to flower in spring, in summer and in autumn, so that there will always be something in blossom from February to November.



Plan 6. BORDER OF HARDY ANNUALS.

References.—1, Larkspur, Giant Branching, blue, 2ft.; 2, Ditto, white; 3, Ditto, rose; 4. Tall Blue Cornflowers, 2ft.; 5, Ditto, white; 6, Mignonette, Golden Queen, 1ft.; 7, Phace ia campanularia, blue, 1ft.; 8, Eschscholtzia, rose, 1ft.; 9. Dwarf Blue Cornflowers, 6in.; 10, Lavatera trimestris, rose, 1½ft.; 11, Godetia, Bridesmaid, pink and white, 1ft.; 12, Convolvulus minor, blue and white, 1ft.

Where annuals alone are to be grown, Plans 5 and 6 will give the reader a fairly good idea how to sow the various kinds to ensure a brilliant effect.

Spring Badding. - Where there are a number of flower beds it is desirable to have these as attractive as possible most of the year, but especially those in spring and summer. For an effective spring display the beds should be planted in

autumn with Hyacinths, Tulips, Narcissi, Crocuses, Scillas and Snowdrops. However, as these bulbs flower fairly early in spring, the beds would be uninteresting in May, and so the modern and excellent idea is not to grow bulbs alone, but such late spring flowering plants as Double White Arabis, Double Daisies, Primroses, Polyanthuses, Forget-me-nots, Silenes and Wallflowers in association with them. This plan provides a succession of flowers from February to June or later. Very pretty effects are obtained by planting scarlet or crimson tulips and carpeting them with the white Arabis; mixed Hyacinths and carpeting with mixed Polyanthuses; Daffodils with mixed Wallflowers and so on. To carry out this scheme plant the flowering plants first a foot apart over the bed and then insert the bulbs between them. In some cases the plants will be in flower at the same time as the bulbs and continue till June; in others they will succeed the bulbs and flower onwards. In June the bulbs and plants can be lifted to make room for the summer bedders, the bulbs being replanted closely in the reserve borders to finish their growth. The Wallflowers, Forget-me-nots and Silenes can be thrown away and fresh plants raised from seed for the following year, and the Daisies, Polyanthuses and Arabis divided and planted in the reserve garden.

Summer Bedding.—When the spring plants are cleared off and the soil dug and manured the summer plants may go in. The fashion now-a-days is to go in for mixed bedding, i.e., to plant a bed entirely with one kind of plant, as Verbenas, Petunias, Phlox Drummondii, Salpiglossis, and so on, and then to dot the taller plants, as Variegated Maize, Fuchsias, Streptosolens, Plumbagos, etc., among them. This is a much more interesting and effective way of filling a bed than the old one, namely, planting the centre with scarlet Pelargoniums, then a row of silver-leaved Pelargoniums, and edging with blue Lobelias. Mixed Tuberous-rooted Begonias, Violas, Zinnias, French Marigolds, etc., are also employed to good effect in the sameway. The beds have not such a monotonous look about them; each has its natural mixture of colours, and is altogether more pleasing than the old stereotyped system. Subtropical gardening is still in favour. Large beds filled with Cannas, Acacias, Humeas, Abutilons, Castor Oil Plants and Palms are very effective, and produce a striking impression when the planting is effectively carried out. Carpet bedding is happily dving out. We fail to see what real beauty there is in a lot of colouredleaved plants planted out at great labour and expense in some intricate design. The plants, moreover, are costly to rear, and the whole thing is not worthy of a place in the garden beautiful. We shall certainly not encourage its perpetuation by giving elaborate details about designs and planting in this book. Those who still desire to have carpet bedding can get anyone skilled in geometry to prepare a suitable design, and as for the plants, their culture is described elsewhere in the book. In some gardens there are dry, sunny spots where other plants fail to do well, and here succulent-leaved and cactaceous plants may be grown on raised beds of varying undulations during the summer, plunging the pots to their rims in the soil in June and lifting and replacing them indoors in September. Vases. if any, may be filled with Tropæolums, Ivy-leaved Pelargoniums and Petunias for draping the margins, and the centre filled with Fuchsias, Pelargoniums, Lobelias and Marguerites.

Autumn Bedding.—In larger gardens where there is ample space large beds may be devoted to autumn-flowering Chrysanthemums, Michaelmas Daisies, Tritomas or Kniphofias, Gladioli, and Japanese Anemones. Between these plants summer-flowering Lilies might be grown to render the bed attractive till the autumn flowers begin to blossom.

Winter Bedding.—Beds near the house that are wanted to look attractive in winter after the summer-flowers are cleared off, may be made interesting by plunging shrubs in pots in the soil, and between planting spring bulbs. Shrubs suitable for this purpose are the Green and Golden Box and Privet, Cupressus lawsoniana, Golden-leaved Euonymus, Tree Ivies, Cupressus plumosa aurea, Golden Yew, Veronica Traversii, and the prettily berried Pernettyas. These of course would have to be lifted in May. They may then be planted in the shrubbery permanently, or temporarily in a spare plot, and lifted and potted again in autumn.

Window Gardening.—This is a phase of flower garden decoration which must not be overlooked. In suburban and town gardens, where space for flower growing is restricted, window gardening affords an opportunity of adding considerably

to the attractiveness of the home and the garden. And even in the larger and more congenial country garden, the presence of a tastefully filled and arranged box of flowers on the window sill is by no means an unattractive feature. A dull and uninteresting exterior of a dwelling may by means of a gay window. box be converted into an object of beauty. So, where the home is desired to be made attractive outside, and the pleasing perfume of flowers wafted through the open window is appreciated, the window sill should be utilised for growing flowers in boxes. It is possible to have a pleasing floral display on window sills of all aspects, whether sunny, partially shady, or shady. In the sunny positions all kinds of flowers, fragrant and otherwise, will succeed. In those that are partially shady, Fuchsias, Calceolarias, Tuberous-rooted Begonias, Sweet Scented Tobacco, and Musk will do well, while in the sunless ones, the best and most beautiful of all plants to grow are the many charming species and varieties of hardy ferns, Creeping Jenny and Periwinkles. With regard to boxes, there is nothing to equal an ordinary wooden box, painted a nice green tint outside only, and faced with Virginian cork. Metal boxes are not good for the roots of plants, and those, whatever their construction, that are faced with blue, yellow, red or other hideous coloured tiles are an abomination and an eyesore. The vivid colours clash with the pleasing tints of the flowers, and the effect of a window display is marred. Terra-cotta boxes of a neutral tint are more pleasing, and of course more durable than those of wood. One should remember that it is not the box that is the attraction, but the flowers grown in it. The boxes should be well supplied with holes at the bottom to allow superfluous water to escape. In each box put a couple of inches of rough cinders, and then fill up with a compost of two parts good soil and one part of equal proportions of decayed manure, leaf mould and sand. In this plant the flowers. For the first few weeks water will be required once a week only; afterwards boxes in warm positions will require water daily, and those in shady positions about twice a week. When the plants are growing freely add half an ounce of artificial manure to each gallon of water used twice a week. Pour this direct on to the soil, and not over the foliage. Ferns will not require liquid manure. Keep all dead leaves, spent flowers and seed pods removed, and then you will not fail to have a charming floral display.

For a summer display you may have a mixed arrangement of plants in one box, as Marguerites, Pelargoniums, Petunias, Heliotropes, Ivy-leaved Pelargoniums, Lobelias, Tropæolums, Calceolarias, etc., or a one-colour scheme as pink or crimson Ivy-leaved Pelargoniums, Yellow or White Marguerites, Heliotropes, pink, white and scarlet Pelargoniums, pink, rose, salmon or crimson Tuberous-rooted Begonias. The latter arrangement is more pleasing to the eye. A mixture of one kind of plant, as Single Petunias, Verbenas, Ten-week Stocks, Tuberous-rooted Begonias, Fuchsias, or Nasturtiums, will also make a pleasing effect. Ivy-leaved Pelargoniums, Single Petunias, Tropæolum lobbianum, Tall Nasturtiums, Campanula isophylla alba, and Lobelias are excellent plants for trailing over the front of the box. Those who are fond of fragrant plants may plant their boxes with Sweet-scented Tobacco, Stocks, Musk, Mignonette, or the Scented-leaved Pelargoniums.

For winter effect small shrubs such as Euonymus, Golden Privet, Cupressus, Thuya, Aucuba, Pernettyas (plants with rose, red, or cream berries) may be planted in the boxes in autumn. Variegated Tree Ivies are pretty subjects for the purpose. These shrubs may be grown in pots plunged in the soil, so as to be easily removed in spring. Some of the shrubs may be good enough to use a second year, in which case plunge the pots in the garden and see the roots are kept moist in summer. If not grown in pots, lift the shrubs in spring, plant out in the garden to grow into large specimens, and buy

fresh plants for the next season.

For a spring display bulbs of Narcissi, Hyacinths, Tulips, Crocuses, Snowdrops, Scillas, etc., may be planted in the soil in which the summer flowers were grown without the addition of manure. Between the bulbs plant a few Wallflowers, Forget-me-nots, Double Daisies, Polyanthuses, Arabis or Aubrietias, and then the effect of the spring floral display will be greatly enhanced. In fact, bulbs may be planted between the shrubs if desired. The bulbs of course will have to be lifted after flowering to make room for the summer plants. They should be at once replanted in a spare border to finish their growth, then be lifted, dried, and stored away till autumn, when plant in the borders and buy fresh bulbs for the boxes. The reader will find references in the cultural section of this work to many other plants that may be grown in window boxes.

Flowers in Vases.—Vases may be made attractive in winter by planting a small evergreen shrub, as a Euonymus, Golden Privet, or Conifer, in the centre, and trailing Ivies round the margins. In spring Wallflowers, Primroses, Polyanthuses and bulbs planted in autumn will make vases pretty and interesting. For summer effect, a good Fuchsia, or a Pelargonium, a Kochia scoparia, or Marguerite in the centre, with Single Petunias, Ivy-leaved Pelargoniums, Lobelia, Tropæolum lobbianum, or Tall Nasturtiums at the base to trail over the sides, will produce a pleasing result. As the space for soil is limited, plenty of water and applications of liquid manure as advised for window boxes will be essential.

Flowers in Hanging Baskets.— Wire baskets lined inside with moss and filled with good soil may be planted with drooping Fuchsias of the Mrs. Marshall type, single and double Tuberous Begonias, single Petunias, Ivy-leaved Pelargoniums, Lobelias, Tropæolum lobbianum, Campanula isophylla, and C. isophylla alba. The baskets should be carefully immersed in water for a quarter of an hour daily, in order to ensure the soil being kept uniformly moist.

Balconies and Verandahs.—These may be beautified in the same way as advised for window sills, *i.e.*, the plants grown in boxes. Plants of a permanent character as Ivies, Clematises, Virginian Creepers, and Passion flowers may be grown in large tubs in the special soils advised for each kind further on. Where possible, however, the creepers should be planted out in beds. In this case Rambler Roses, Aristolochias, Jasmines, Honeysuckles, etc., may also be grown to clothe the pillars of verandahs. Large plants of Lilies, Agapanthus, Hydrangeas, Fuchsias, and other flowering plants grown in pots or tubs, may be placed here and there to make the approaches or the interiors gay during the summer.

FLOWER GARDEN PESTS.

INSECT, animal, and fungoid pests are pretty numerous in the flower garden, and often do a considerable amount of damage. A book like the present one would therefore be wanting in completeness if it failed to make mention of the principal pests, at any rate. There are entomological, mycological, and other natural history critics, however, who assert that it is no part of a horticulturist's business to deal with such a subject in ordinary gardening books, and that such information should only be given by the learned experts in question. We claim, however, to know enough of the life history and habits of most pests to be able to impart sound advice to readers of this volume, and so care not one jot about the opinions of natural history faddists.

Ants.—These are often troublesome creatures on lawns, paths and borders, tunnelling the soil, throwing up heaps of fine earth, and disturbing the roots of plants generally. A simple way of eradicating them on paths is to find out their nests, loosen the gravel, and pour boiling water freely over the surface. In borders and on lawns the most effectual remedy is to make holes six inches deep and a foot apart, put a table-spoonful of bisulphide of carbon in each, and fill up at once with soil, trodden down firmly. The carbon will emit a gas which permeates the soil and kills the ants. Do not inhale the gas, nor use a light near it.

Aphis (Green Fly.). The insects known as Green Flies are very abundant in flower gardens during summer. Their fecundity is prodigious, and unless speedily eradicated rose trees, especially, soon become literally smothered with them. They pierce the epidermis of the young shoots and suck out the sap, causing the shoots to be unhealthy. Three species are harmful to flower garden plants, the Common Green Fly (Rophalosiphon Dianthi), Rose Aphis (Siphonophora Rosæ), and the Sweet Pea Aphis (Siphonophora pisi). Besides robbing shoots of their sap, they also coat the leaves with a sticky substance called honeydew, which seals the stomato or

breathing pores of the leaves, and prevent the latter carrying on their natural functions. Moreover, the honeydew attracts atmospheric deposits, and promotes the growth of injurious fungi. Directly aphides are detected on plants the latter should be promptly syringed with an insecticide. Many excellent insecticides are advertised in "Amateur Gardening," but a good home-made preparation may be made as follows: Boil for a quarter of an hour one pound of soft soap in a gallon of water—rain water if possible—then add a pint of paraffin oil and well stir the solution. Put the solution in a large jar, and keep corked till required for use. When to be used add a pint to seven gallons of water. Use a fine syringe or a sprayer, and well moisten the whole of the foliage. Evening is the best time to do it.

Another species of Aphis must not be overlooked, namely, the Root Aphis (Trama Troglodytes). This is a woolly species which infests the roots and stems of the Auricula. In case of infestation lift the plants, wash the roots well in soap suds, and replant in a fresh site. Some soapy water containing a little paraffin should also be forced into the hole vacated by the

plants to destroy any left behind.

Birds.—These on the whole do more good than harm in the flower garden. The only one that may be said to do any injury is the House Sparrow. He is certainly very partial to opening flowers of the Crocus and to the young shoots of Pinks and Carnations. He tears the petals of the former to pieces in a wanton way, and nips off the points of the shoots of the latter, preventing them forming strong flowering stems. His mischievous antics can, however, be easily circumvented by placing a few short sticks in the ground, and winding strands of black cotton backwards to these a few inches above the surface. The sparrow does not observe the cotton till it comes in contact with his wings, and then he becomes frightened and speedily beats a retreat.

Carnation Maggot (Hylemyia nigrescens). — The yellowish, wrinkled and legless maggot often found in the shoots and stems of carnations is the larva of a small fly. The fly lays its eggs in the points of the young shoots, and when the larva hatches it tunnels the leaves and then the shoots. The larva can only be extracted by slitting open the

shoot or epidermis of the leaves and digging it out with the point of a knife. Badly infested shoots should be burnt. Spray infected plants with an insecticide in August and September to prevent the fly laying its eggs.

Caterpillars.—Numerous caterpillars infest flower garden plants, either gnawing the leaves, the shoots, or the roots. These are the larvæ of various species of butterflies and moths. The larvæ of the Large White Butterfly (Pieris Brassicæ) feed on many plants. They are of a yellowish tint, spotted with black. The Small White Butterfly (Pieris Rapæ) has green larvæ, spotted on each side with yellow. Both are

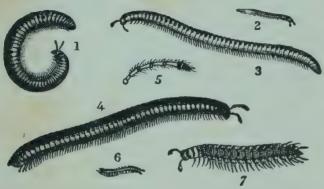


Fig. 30. MILLEPEDES, OR FALSE WIRLWORMS.

EXPLANATION.—Fig. 1, Julus terrestris curled up; Fig. 2, Julus guttatus, natural size; Fig. 3, Ditto, largely magnified; Fig. 4, Julus terrestris, natural size; Fig. 5, Horn or antenna of Fig. 4; Figs. 6 and 7, Polydesmus camplanatus in a young and natural state. These creatures are furnished with numerous legs, and therefore easily distinguished from the True Wireworms.

Mamestra Brassicæ) has fat, dark greyish larvæ marked with black and white, which feed on the leaves of Dahlias, Geraniums and garden plants generally, doing considerable harm. The Small Ermine Moth (Hyponomeuta Padellus) produces small caterpillars of a grey or brown colour, spotted with black, which live in communities protected by a web. These pests infest Hawthorn and Euonymus hedges and shrubs, and soon devour the foliage unless cleared. The larvæ of the Winter Moth, Vapourer Moth, Buff Tip Moth, Yellow Under-wing Moth, and many other genera, infest rose trees and devour the foliage. In each and every case the best remedies are hand-picking or syringing or spraying with the insecticides advised

for aphides. In the autumn and winter, too, a careful eye should be kept upon the soil when being dug, and the pupæ of these pests picked out and given to poultry. An application of Vaporite forked or dug in at the rate of one pound per eight square yards in autumn will do much to destroy pupæ and other grubs in the soil.

Earth Grubs.—The larvæ of some moths, flies, and beetles do much mischief to garden plants by eating their roots. One of the worst offenders is the Leather Jacket Grub, the larvæ of the Daddy-longlegs Fly (Tipula oleracea).

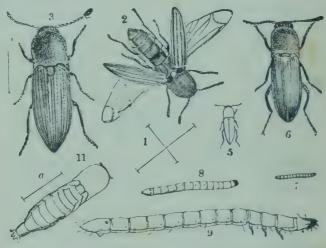
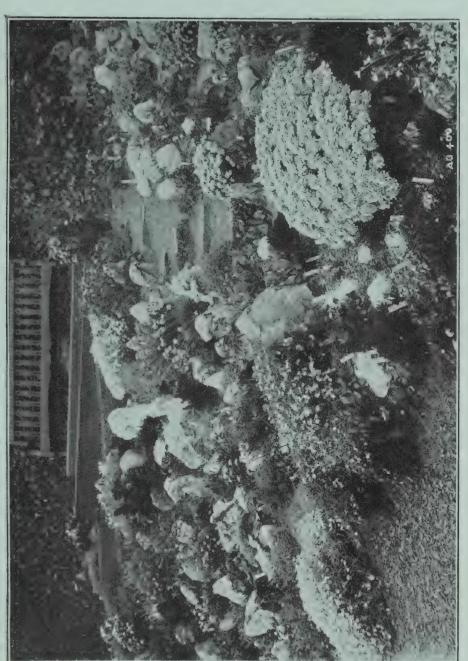


Fig. 37. CLICK BEETLES AND TRUE WIREWORMS.

EXPLANATION.—Here are shown the True Wireworms or larvæ of the Click Beetle. The larvæ have only six legs in front, and are easily distinguished from the Millepedes, or False Wireworms, which have numerous legs, as shown in Fig. 30.

The grubs when matured measure an inch or so long, have no legs, a truncated tail, and a wrinkled, greyish or brownish body. They feed on the roots or lower stems of Carnations, Pinks, and other plants, also on the roots of grasses. During the day they remain quiet, and at night come near or on the surface to feed. They often attack grass on lawns, causing large patches to die. Having very tough skins it is almost impossible to destroy them by using ordinary remedies. In the case of border plants that suddenly droop and die, pull up the plant and search the soil for the grubs. When lawns are attacked cover the infested areas with boards or slates at night, lift these in the morning, and the grubs will usually be found on



A SIMPLE ROCK GARDEN.

orm it into a simple home for alpine plants by the Advantage is taken of a natural slope to form it into a simple tasteful use of a few pieces of rock.



A PRETTY COMBINED ROCK AND WATER GARDEN.

the surface. Collect and give them to poultry, or place in a strong brine pickle. Another gross offender is the Wireworm, the larva of the Skip Jack, or Click Beetle. There are several species of the latter, but their larvæ are of similar form and habits. The larvæ are cylindrical and wiry, have six legs near the head, and a sucker-like foot at the tail. The body is of a ruddy yellow colour. These creatures live for three or more years in the grub state, and during that period attack the roots of Carnations and other plants, gnawing their way in and up the stems. Wireworms are easily trapped by attaching pieces of carrot or potato to a stick, and burying these beneath the surface of the soil. The grubs are partial to both, and if the portions are pulled out occasionally the former will be found attached. Salt, soot, and similar remedies seem to have no effect on the grubs, but experiments have proved that Vaporite, forked in at the rate of one pound per eight square yards in autumn, will destroy the grubs. Many people confuse millepedes with wireworms. The former are active creatures furnished with numerous legs, and easily distinguished from wireworms, which have few legs, and are less active in their habits. Millepedes feed on the roots of plants and seeds, but are not so harmful as wireworms. The large fat grubs found in the soil when digging are the larvæ of the Cockchafer Beetle (Melolontha vulgaris). They should be picked out by hand and given to poultry. They feed on the roots of roses and perennials. Grubs of the Heart and Dart Moth (Agrotis exclamationis) and the Dart Moth (Agrotis segetum) are both destructive to the roots of plants. Both are of a dirty grey colour, dotted with black. They feed at night only. Search round the base of infested plants by day, or sprinkle a little nitrate of soda or soot on the surface of the soil. Sometimes the bulbs of narcissi are infested with a vellowish, legless maggot. This is the larva of the Narcissus Fly. Bulbs known to be infested should be lifted and soaked in water for a week or so to drown the grubs. Microscopic creatures called Eelworms often infest heavily manured or sour garden soils, in which case they find their way into the roots and stems of Carnations and Calceolarias, Asters, etc., and cause death or disease of the plants. Dressing the soil before planting with fresh lime, or ground lime, or Vaporite, will usually prevent attack by killing the pests. Experience

shows that soil grubs and pests generally may be kept in check by trenching soils deeply every three or four years, periodical liming, and frequent hoeing in summer. Keeping weeds in check, too, also helps to reduce the number of pests, as the latter frequently lay their eggs on them.

known to require any detailed description of its form. In some seasons it does much mischief to the flowers of Roses, Dahlias, etc., nibbling holes in the petals. Where very numerous, hollow beanstalks or canes should be placed in the bushes or plants at night, and the contents blown out into a vessel of hot water; or inverted flower pots half filled with dry grass, moss, or hay placed on stakes near the plants. Examine the contents every morning, shaking out any earwigs into hot water, or on the ground, and crushing them under foot.

Froghoppers or Cuckoo Spit (Aphrophora spumaria). This, known also as the Spittle Fly, is a greyish or brownish fly which jumps away directly the plant it is on is touched. The larva which really does the most harm to plants is a pale green or yellowish fat insect, that may often be seen on the shoots of plants in summer, ensconced under a frothy covering. Under this protec ive covering it pierces the epidermis of the shoot with its beak-like proboscis and sucks out the sap. The froth is rather slimy, and if an attempt be made to grasp it with the finger and thumb, the insect often escapes and runs round the opposite side of the shoot. With a little dexterity it may be caught and crushed, otherwise syringing the infested shoots with a liquid insecticide is the best remedy. The perfect insects also pierce the shoots with their beaks and abstract the sap. If very numerous hold a treacle-smeared tray on one side of the plants, and give the latter a shake to make the flies jump on to the tray.

Fungi.—Many forms of minute fungi, such as mildews and rusts, attack flower garden plants and trees. Roses are liable to be attacked by Rose mildew (Sphærotheca pannosa), a white powdery-like growth which spreads on the surface of leaves and shoots, causing them to curl and become diseased. In due course this growth bears spores which are carried by the wind on to healthy leaves, where in moist weather they germinate

and produce a further crop of mildew. Later on winter spores are produced which remain intact till the following year, then they germinate and vield further spores for extending the growth of mildew. Other fungi that attack roses are the Anthracnose, which causes the shoots to die at the tips; Black Spot, growing in the form of black spots on the leaves; Rose Rust, in the form of bright orange spots on the foliage; and Roseleaf Spot, causing black patches on the foliage. The remedies are: dusting freely with flowers of sulphur, or spraying with a fungicide, such as sulphide of potassium and water, or an ammoniacal solution of copper carbonate. The former is prepared by dissolving an ounce of sulphide of potassium in a quart of hot water and adding water to make 21 gallons. The other solution is prepared as follows: Add r oz. of carbonate of copper and 5 oz. of carbonate of ammonia to a quart of hot water, and when dissolved add 16 gallons of water. Apply with a sprayer. Other fungoid enemies of flower garden plants are the Violet Mildew (Peronospora Violæ), forming a violet-grey growth on the under sides of violet leaves; Sycamore-leaf Blotch (Rhytisma acerinum), forming black patches on the leaves; Sclerotium Disease (Sclerotinia sclerotiorum), a mould-like growth which attacks the base of Chrysanthemum stems, causing them to wither and die, and also the tubers of stored Dahlias; Onion Sclerotinia (Sclerotinia bulborum), attacking the foliage of hyacinths in spring in the form of a velvety mould, and then spreading to the bulbs in the shape of a black substance which causes the bulbs to decay; Pæony Disease (Sclerotinia pæoniæ), causing the stems to become limp, wither and die; Tulip Mould (Sclerotinia parasitica), forming a velvety mould on the leaves and stems, and spreading to the bulbs; Snowdrop Mildew (Sclerotinia galanthica), a greyish mould growing on the leaves and flower stems, and then attacking the bulbs; Lily Disease, a form of Sclerotinia which has badly attacked Lilium candidum of late years; Hollyhock Rust (Puccinia malvacearum), a fungus forming brown warts on the leaves; Pink Rust (Puccinia arenariæ), forming black spots in circles on the leaves; Mignonette Disease (Cercospora resedæ), forming brown spots on the leaves; Fairy Ring of Carnations (Heterosporium echinulatum), causing black spots in irregular or fairy ring-like circles on the leaves of Carnations, Pinks and Sweet

Williams; Carnation Disease (Macrosporium nobila), forming in the first instance pale brown and then black spots on the leaves and stems; Finger and Toe Disease (Plasmodiophora brassicae), a slimy fungus forming nodules on the roots of Wallflowers; and the Damping-off Fungus (Pythium de Baryanum), a fungus which creeps along the surface of the soil and causes seedlings to wither in the stem. In all cases spray with one of the fungicides advised for mildew. In bad attacks the best remedy is to burn the infected plants to stamp out the disease. Diseased leaves and plants should not be allowed to lie about, but be promptly burnt.

Goat and Leopard Moth Larvæ.—These attack Poplar and other trees, boring tunnels right into the trunks, and eventually seriously injuring or killing the trees. The larva of the Goat Moth (Cossus ligniperda) is the size and length of one's little finger, and pinkish in colour. It feeds for about three years in the tree, then comes and forms a cocoon, and finally emerges as a handsome moth. The larva of the Wood Leopard Moth (Zeuzera œsculi) is smaller than the preceding one, is yellowish in colour, and dotted with black. It also feeds for two years in the trunks and branches of trees. Both are difficult to get at in their burrows. Wherever a little lump of fine sawdust is seen on the bark search for the hole and thrust a red-hot wire in as far as it will go. Chloroform may also be injected in the hole, and the orifice sealed up with clay.

Hares and Rabbits.—Both do injury to Carnations, and the stems of trees in gardens by gnawing off their bark. The best preventive measure is to fence the garden in with wire netting. Failing this surround the Carnations with wire netting, and paint the stems of trees likely to be attacked with a mixture of train oil, cart grease, and soot to a height of 3 ft. from the ground. Another good remedy is to make a paint of fresh cow dung, clay and water, and to each pail add a teaspoonful of tincture of asafætida. Paint the bark with this. In the case of trees that have been partly barked by rabbits or hares, smear on a thick plaster of cow dung, clay and soot, to help the wounds to heal.

Leaf-Cutting Bee (Megachite centuncularis).—This is one of the solitary bees that cuts circular portions out of the

edges of rose leaves and carries them away to line its nest in the borders or lawn. The bee can only be caught by means of a net. It stings.

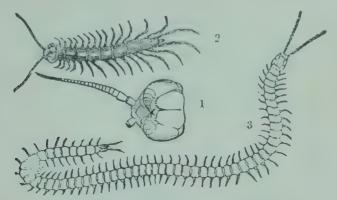


Fig. 32. GARDEN FRIENDS-CENTIPEDES.

EXPLANATION.—Fig. 2 is the Common Centipede (Lithobius centipatus), and the other (Fig. 3) the Snake Centipede (Geophilus longicornis). Both are garden friends. See page 77.

Leaf-mining Maggots.—Chrysanthemums, Echinops, Hollies, etc., often have their leaves injured by the presence of maggots just under the epidermis, the maggots having eaten

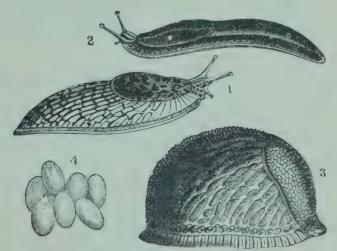


Fig. 33. GARDEN SLUGS.

EXPLANATION.—Fig. 1 is the Milky Slug (Limax agrestris); Fig. 2 the Black Slug (Limax ater); and 3 the same in repose. Fig. 4 are the eggs.

the soft tissue and leaving the bleached epidermis to indicate their presence underneath. The Holly Leaf Fly (Phytomyza Licis) is a minute insect which deposits its eggs in the tissues

of the leaf, the resultant maggots then forming little tunnels and eating the tissues as they work along. The maggots or the pupæ can be seen in the leaves, and may be dug out with the point of a knife. The only known remedy otherwise is to pick off and burn the worst infested leaves. The other species (Phytomyza affinis) deposits its eggs in the tissues of Marguerites, Chrysanthemums, etc., and from these larvæ are hatched which feed similarly to the Holly Leaf maggots. In this case crushing the maggots in the leaves, or digging them out, or pulling off and burning badly infested leaves are the

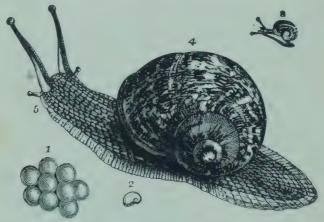


Fig. 34. GARDEN SNAIL.

EXPLANATION — Fig. 1 shows the eggs, which are of the size of shot, and laid in damp soil. Fig. 3 is a baby snail. Fig. 4 is a full-grown snail (Helix hortensis), with its shell on back. Slugs have no shells, hence are easily distinguished from snails.

best remedies. To prevent the flies laying their eggs spray the foliage occasionally with the following solution: Place a piece of hearthstone in a pail and pour on as much paraffin oil as it will absorb, then add two gallons of water. Let the liquor stand for three days, remove all scum from the surface, and apply with a fine sprayer.

Mice.—Ordinary Mice, and Field Mice or Voles, are partial to newly planted bulbs. Moistening the bulbs and rolling them in powdered red lead before planting often preserves them from molestation.

Red Spider (Tetranychus tellarius).—This is a small mite which congregates on the leaves of roses in hot, dry situations, and under the protection of a fine web sucks out

the sap. It is a very harmful pest, and should be promptly destroyed by spraying the foliage repeatedly with an insecticide

Rose Baetle (Cetonia aurata).—This handsome green and golden tinted beetle sometimes injures rose blooms by tearing off the petals to get at the pollen, its chief objective. The only remedy is hand picking. The Bracken Clock-Beetle (Phyllopertha horticolo) also feeds on the stems of roses. Hold an inverted umbrella and shake the flowers over this in dull weather, then the beetles will fall off.

Sawflies.—The larvæ of sawflies often injure the foliage or shoots of roses. These larvæ are commonly called Slugworms owing to their slug-like form. They either eat holes in

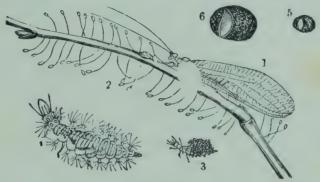


Fig. 35. GARDEN FRIENDS-LACE-WING FLIES.

EXPLANATION.—Fig. t shows the Lace-wing, or Golden-eye (Chysopa perla), on a shoot laying its eggs, which are attached to a slender filament, as illustrated. The larvæ (Fig. 4) are furnished with hairs and powerful jaws and feed voraciously on aphides. The parent has beautifully netted transparent green wings.

the leaves, gnaw off the epidermis leaving the veins exposed, or bore into the pith of the shoots. There are several species of them. The leaf-feeders may be destroyed by syringing with an insecticide or dusting with hellebore powder or flour of sulphur. The pith-feeders can only be got rid of by cutting off any shoot which indicates their presence within by shrivelling. Such shoots should be burnt.

Slugs and Snails—Both do a good deal of harm in gardens, especially to ferns and seedlings. There are two kinds of harmful snails, the Common Snail (Helix aspera), and the Garden Snail (Helix hortensis). They are easily distinguished from slugs by carrying their shells on their backs. There are

several kinds, the Black Slug (Arion ater); Garden Slug (A. hortensis); Yellow Slug (Limax flavus); Field or Milky Slug (Limax agrestris), and the Large Slug (Limax maximus).

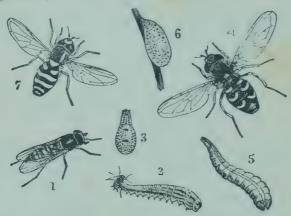


Fig. 36. GARDEN FRIENDS-HAWK FLIES.

EXPLANATION.—Fig. 4 (Scava Pyrastri) and Fig. 7 (Scava Ribesii) are small flies of a wasp-like nature, which lay their eggs among colonies of aphides, and these hatch into larvæ, like Figs. 3 and 5, which immediately commence to devour the aphides. Figs. 3 and 6 are pupæ.

Slugs and snails are more active in moist weather, and the best way to cope with them is to dust soot or lime freely about the borders on successive evenings. One application is useless, as



Fig. 37. GARDEN FRIENDS-LADYBIRD BEETLES AND LARVÆ.

Explanation.—Figs. 5 and 6 show the pupæ on leaves; Fig. 3 is the larva or "Crocodile," which feeds voraciously on aphides; Figs. 7 and 8, the Two-spotted Ladybird (Coccinella bipunctata); Fig. 9 is the Seven-spotted Ladybird (C. septem punctata). These creatures should never be destroyed.

the creatures will shed their slimy coatings for the first day or so and get rid of the lime or soot, but if the application be repeated a few times the lime or soot will eventually kill the pests. They feed mostly at night, and lay their eggs in damp, moist soil. A dressing of Vaporite in autumn, winter or early spring, will destroy the eggs. See Figs. 33 and 34.

A Few Garden Friends.—Fortunately while we have a host of pests ever ready to devour our precious plants, we have also many insect and animal friends whom it is desirable we should encourage to multiply, and make themselves at home in the garden. Among birds the Chaffinch feasts on caterpillars; the Thrush upon snails; the Starling upon grubs; Flycatchers and Swallows on moths and butterflies: Robins on small insects and slugs; and the Tit-mice and Wrens on aphides. These feathered creatures should be encouraged to visit the garden. Then among insects we have the Devil's Coach Horse Beetle and its larvæ, which feed on soil pests; Hawk (Fig. 36), Lacewing (Fig. 35), and Ichneumon Flies that lay their eggs in the bodies of cateroillars, and the larvæ of which eventually feed on the latter; Lady Bird Beetles and their larvæ (Fig. 37), which devour aphides; the Testacella Slugs, that feed on earth worms, and the Tiger and Violet Ground Beetles, which also destroy ground pests. Then Toads and Frogs and the Garden Spider also do their share. Centipedes (Fig. 32, p. 73), again are friends of the gardener. They are similar in form to the millepedes, but far more active, and feed on small grubs and soil pests generally. Readers should make a point of studying the habits of insects, etc., and note which are harmless and which injurious to vegetation.

TOOLS AND APPLIANCES.

No garden can be properly laid out or managed without a good equipment of tools and appliances. Where the makeshift system of using a limited number of the latter is adopted economy of labour, time and money cannot be effected, nor can the various operations be properly carried out. As a guide to the flower gardener, therefore, who has little or no knowledge of the various esssential tools and appliances required, we give a description of the latter with a few hints as to their uses.

Spades.—A good spade is absolutely essential. They may be obtained in cast steel, faced, or of solid steel. Each kind is made of three sizes, varying in size from $7\frac{1}{2}$ in. by $11\frac{1}{2}$ in.; $7\frac{3}{4}$ in. by 12 in.; to $8\frac{1}{4}$ in. by $12\frac{1}{2}$ in. The cast steel makes are slightly dearer than the solid steel ones. Those with a bright steel surface work the easiest. Each spade should be provided with a good tread, so that the foot may have greater power in pushing the blade into the soil. The "London Tread" make is the best. Spades, and, indeed, all steel tools, should be washed clean and well dried with a rag after use, then be rubbed over with a paraffin oil rag to prevent rust.

Digging Forks.—These are made with broad and narrow tines. The broad-tined are four pronged, very strong, and useful for breaking up the subsoil when trenching, or digging over flower beds. The narrow-tined forks are four or five-pronged. These are used for digging flower borders. There are large and small-sized makes, and the latter is the handier of the two for flower gardening.

Rakes.—Rakes are of various sizes and fitted with steel teeth and wooden handles. They may be obtained in sizes varying from 6 to 12 in. in width and upwards. Useful sizes are 6, 10 and 12 in. wide. A wooden hay-rake with its teeth shortened to 2 or 3 ins. is useful for raking grass on lawns or leaves in the shrubbery. There is also a Daisy Rake, fitted with a curved iron shield and armed with sharp blade-like

teeth, which is used for cutting off daisy blossoms on the lawn.

Shovels.—A good steel shovel, 12 by 9 in., or $12\frac{1}{2}$ by $9\frac{1}{2}$ in., is useful for gravelling and picking up rubbish in the gardens, also for filling soil, etc., into barrows.

Hoes.—For weeding borders, loosening the surface, and clearing weeds off paths, a Dutch push hoe, or a Pick's patent combined push and draw hoe, is a useful tool. The latter is a splendid tool for flower borders. Both kinds are made of various sizes from 4 in. up to 6 in. in width. A draw hoe is also a useful tool to have for removing weeds from paths. All are made of cast steel.

Shears.—For clipping grass, shears provided with cranked iron handles are best. For hedge-trimming or grass-cutting, shears with broad steel blades and two wooden handles are indispensable. These may be had with 8 or 9 in. blades. Grass-edging shears are necessary for trimming the edges of grass. They have blades similar to ordinary shears, but have handles 3 ft. long fitted nearly at right angles to the blades.

Scythes.—A good scythe with a blade 3 ft. long, and fitted with a bent wooden handle, is necessary wherever there is much lawn. It is useful for cutting off the coarse grass early in the spring before using the machine, and occasionally at other times for removing grass bents. The blade has to be carefully adjusted to the handle to suit the person using it. The blade, moreover, should be so adjusted that it works flat on the surface. A snath may be obtained to fit the blade to the handle, this contrivance rendering an alteration of the blade to suit the user an easy matter. A belt for carrying the sharpening stone is also required.

Turfing Tools.—For cutting turf, or the edges of turf, an edging iron or verge cutter is needed. This consists of a crescent-shaped steel blade fitted to a handle like that of the spade. A more modern kind is fitted to a wheel, enabling the operator to cut as fast as he can walk. Another tool is the Turfing Iron, or Turf Spade. This is made in two forms, one a crescent-shaped blade fitted with a bent handle, and the other with a heart-shaped blade and bent handle. After the turf has been cut by the Edging Iron, the Turfing Iron is

inserted under the turf to be raised and pushed forward. Then there is the Turf Beater, a heavy piece of wood a foot or so square or oblong in shape, 2 to 3 ins. in thickness, and fitted with a wooden handle at a convenient angle to enable the tool to be used perfectly flat for beating down the turf.

Hand Forks.—These are made of various shapes with steel prongs and short wooden handles. They are most useful tools for planting flowers or for stirring the surface of the soil in beds and rockeries. They are made with narrow and wide blades.

Trowels.—There are several forms of these. The ordinary kind, made of steel with a wooden handle and curved shank, is perhaps the strongest and most useful for general garden work. There is also a narrow kind, known as the Fern Trowel, but this has no special merit for general use.

Dibbers.— The simplest and best of all dibbers for garden use is the upper part of an old spade or fork handle, with its lower part shaped to a point. Special dibbers sheathed with iron or steel may also be purchased, these lasting longer than the home made ones. Really, except for small seedlings or bulbs, a trowel or hand fork is to be preferred for planting. For bulb planting in turf a special tool called Bart's Bulb Planter is preferable to an ordinary dibber.

Rollers.—A roller is indispensable for lawns and gravel paths. Rollers are made in various patterns, with an open, single, or double cylinder, or with closed ends, enabling the interior to be ballasted with water where a heavy weight is desired. Those with a double cylinder, or the cylinder made in two parts, are preferable, as the roller can be more easily turned without injuring the turf. Rollers are made of various weights and sizes from 14 by 14 in., weighing 1 cwt.; up to 2 ft. by 2 ft., weighing 4 cwt., and so on. Our experience is that the solid-ended double-cylinder makes with balanced handles are the best for general use.

Mowing Machines.—Of these indispensable garden appliances there are many kinds, of American and home manufacture. The American type are of light construction and easy working. They have one central cross-handle, a cutting cylinder of few blades, and no collecting boxes as a rule. These machines are easily worked by youths, ladies, or men. They

are, moreover, cheap and well within the means of owners of small gardens. The British type of lawn mowers are more solid in construction and also more durable than the American type. They are usually made with two handles, fitted with an iron roller behind, a small wooden roller in front, and the cutting cylinder in the middle. The cylinder is driven by cog-wheels, or by a flat link chain. These machines are made in various sizes. Thus, an 8 or a 10 inch wide cylinder machine may be worked by a boy or lady; a 12 or 14 in, by a man; an 18 in. by a man and boy; a 20 or 22 in. by two men: and a 24 in. by a pony. Machines with a 30 in. cylinder are now made to be drawn by a motor. It would occupy too much space to go into details about the respective merits of each kind of machine in the market. All have their good points. and it is merely a question of individual fancy and price as to which may be said to be the best. One firm manufactures a machine specially for cutting grass slopes. A word must be said here about the management of a lawn-mower. It is most essential that the machine be kept perfectly clean. After use all the grassy particles should be thoroughly cleaned away by a brush or broom, and the cutting knives rubbed over with an oil rag, and all soil particles removed from the rollers. This done, place the machine in a dry shed. Each autumn, take the machine to pieces, clean off all accumulations of oil and dirt, well oil every part, and also give a coat of paint to the framework of the machine. Every two or three years it is advisable to send the machine to the makers to have the cutting cylinder knives and the knife plate ground and properly adjusted.

Hose.—A good hose is necessary in gardens where there are taps connected to a high-pressure water supply. Red of grey rubber hose is the cheapest, this being supplied in 60 ft. lengths, with \(\frac{1}{2}\) in., \(\frac{3}{4}\) in. and \(\text{i}\) in. diameter. Two-ply and three-ply strengths are the most durable. A more durable hose is the vulcanised india-rubber make. This, too, is made in 60 ft. lengths with diameters ranging from \(\frac{1}{2}\) in. to \(\frac{3}{2}\) in. and in one, two or three-ply strengths. Longer lengths can be made by means of unions or connections. For connecting the noze to the taps, Royle's Tap Union is preferable to the screw nozzles often used. Roses, jets, spreaders, and stop-cocks are also necessary adjuncts to a garden hose. A reel, too, is

essential for winding the hose on when not in use. Another kind of hose is the Armoured Hose, the rubber being protected by a coil of wire outside. This, of course, is an expensive hose. At the end of the season the hose should be drained dry, wound on the reel, and stored in a dry shed.

Water Barrows.—Where no water supply is laid on in pipes, a water barrow is essential to convey water from the nearest pond, or pump, to the borders. For this purpose a galvanised iron swing tank on two wheels is a useful appliance. These are made to hold 12, 16, 24, and 30 gallons. They are easily managed by a youth or man.

Garden Engines.—These are small cisterns mounted on a pair of wheels and fitted with a force pump and jet through which liquids can be ejected at high pressure. These engines are useful for spraying rose trees, watering beds or borders, syringing trees, and so on. Closely allied are the various forms of spraying pumps used for the application of liquid insecticides.

Prongs.—A prong is like a small rake, but with three or four teeth only, and these about 3 to 4 in. long. This is a capital tool for stirring the soil in beds and borders in summer; more especially beds of Carnations, Violas, etc.

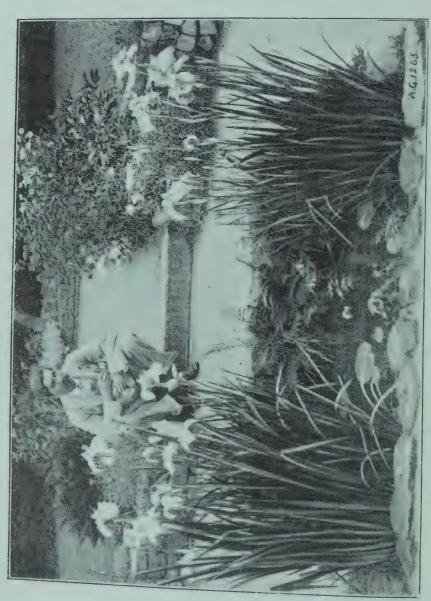
Hammer.—A good hammer fitted with a claw at one end is necessary for driving nails into walls, etc. Nails best suited for use with shreds for training creepers are the ordinary cast or the diamond-pointed wrought. A better nail still is Chandler's Patent. This is fitted with a pliable appendage near the head, which secures the shoot in position, and dispenses with the use of shreds. When shreds have to be used the medicated form sold in buff or green tints are better than those made of cloth, being less liable to harbour insects. The former are made in sizes varying from $\frac{1}{2}$ in. wide and 6 in. long to $\frac{1}{2}$ in. wide and 3 in. long.

Knives.—Two kinds of knives are in general use in gardens, the budding and the pruning. The former are usually made with flat ivory handles tapered to a thin edge at the base, and fitted with steel blades of the finest quality. There are one or two other forms, but the former is the best. These knives are useful for budding, making cuttings, and cutting bast when



ROCK BED ON A LAWN.

simple and pretty way of growing alpine plants. Just sufficient pieces of rock are used to form a series of small beds in which to grow dwarf plants which do not do so well in ordinary borders.



JAPANESE IRIS (I. LÆVIGATA) IN SMALL POND. See p. 155 for description and culture.

tying plants, and are easily carried in the waistcoat pocket. The pruning knife has a bone or horn handle, and a steel blade either made to shut into the handle, or fixed to the blade placed in a leather case. We prefer the former because of its being more convenient to carry in the pocket. Another form of knife is fitted with a small lens in the lower part of the handle, or with the lens so fixed that it moves in or out of the base of the handles.

Pruning Shears, etc.—These are of various sizes and forms. Some are made with a strong pair of wooden handles, and a powerful parrot-bill steel cutter. This instrument is useful for cutting off large shoots or branches. A similar instrument, fitted with one handle, varying from 3 to 6 or more feet in length, and the cutting blade manipulated by a strong wire and lever—known as the Standard Tree Pruner—is used for pruning tall trees. Then there are pruning scissors and secateurs, instruments fitted with a spring and with steel parrot-bill blades, these being most useful for all kinds of pruning.

Wheelbarrows.—A wheelbarrow is a sine qua non in every garden. It may be had in wrought iron or in wood. The former are very light to use, and last a long time. Of wooden barrows, that known as the box pattern is the best. It is of simple construction, not too heavy or clumsy, and lasts a long time. A false top may be fitted to it for use when collecting leaves or light rubbish.

Baskets.—The handiest form of basket for collecting weeds, holding plants, etc., is the "Sussex Truck or Trug," an oblong basket made of thin staves of wood. Wicker baskets may also be obtained for a similar purpose.

Watering Cans.—The best of cans for watering purposes are those known as Haw's Patent. They are strongly made, and have the handles so constructed that they can be used with greater ease than those of the ordinary type. They are, moreover, fitted with specially constructed "roses," which diffuse the water in a soft spray over the plants and soil. For carrying water for use galvanised iron cans are the best to use.

Miscellaneous Appliances.—Among the remaining useful tools and appliances which a well-ordered garden should possess are: A garden line and reel; a 6ft. or 10ft.

measuring rod; a pair of wooden compasses with legs 5 or 6 ft. long; a level and plumb rule; a hand barrow; a good syringe, such as the Abol; a powder distributer; a handsprayer for diffusing insecticides in a fine spray; a set of sieves with meshes varying from \(\frac{1}{4}\) in. to \(\frac{1}{2}\) in.; a set of hand glasses, bell glasses, and cloches; birch brooms; a supply of raffia tape or raffia grass, tar twine, and a good assortment of stakes.

Labels.-Last of all come labels. The cheapest of all are the well-known wooden labels. These are made in sizes varying from 3 to 12 in. in length. They can be purchased ready made, but a handy person can in wet weather make a good supply from purchased wood laths. Those ready made are coated with white paint on one side. Those who make their own can easily smear white paint on one side when required for use or beforehand. The writing is more durable, however, when written whilst the paint is fresh. Special pencils for writing names on these tallies are sold by all florists. They write more durably than the ordinary pencils. The most permanent label for roses, trees, and hardy plants is the "Acme." This is made of zinc, and the letters are stamped in relief on a black ground. These labels are imperishable. They are fitted with eye-holes, and attached with wire to the shoots, or with wire stems for fixing in the soil when used for hardy plants. Another good permanent label is the zinc one. The face has to be first rubbed clean and bright with emery paper, and then the name is written thereon with a special acid ink and a quill pen. The writing eventually turns to a black colour. There are many forms of labels in the market, many of them fanciful in design, but in no way superior to those mentioned.



PART II.

HARDY PLANTS.

(ANNUALS, BIENNIALS, AND PERENNIALS.)

Abronia (Sand Verbena).—Half-hardy annuals and perennials belonging to the Marvel of Peru family (Nyctaginiaceæ). The verbena-like flowers are noted for their honey-like fragrance as well as their beauty. They succeed best on a sunny rockery in sandy loam. Their habit of growth is trailing. All the species named below may be raised from seeds. As the seeds take a long time to germinate, their outer skins should be peeled off before sowing in well-drained pots of sandy soil in a cold frame in autumn. Keep the seedlings in the frame till May, then harden off and plant out later in the month. The perennial species may be increased by cuttings inserted in sandy soil in spring. The chief species are: A. arenaria, lemon-yellow, July, 12in., half-hardy perennial; A. tragrans, white, June, 18in., half-hardy perennial; A. umbellata, rosy-pink, summer, 12in., half-hardy annual. Natives of California.

Acæna.—A genus of dwarf sub-shrubby plants belonging to the Rose family (Rosaceæ), and grown chiefly as edgings to beds or on rockeries. The flowers are not attractive, the chief charm lying in their neat foliage. We find them most useful for dry rockeries, or for carpeting a dry border in which bulbs are growing. They will succeed in any soil or position that is not too damp. Readily increased by seeds sown outdoors in spring, by cuttings in pots in a cold frame in summer, also by division at any time. The only species we consider

worth growing are A. microphylla, with green foliage and crimson-spiked flower-heads; and A. pulchella, bronzy-leaved. These only grow an inch or so high. Natives of New Zealand.

Acantholimon (Prickly Thrift or Sea Lavender).— This genus of hardy evergreen perennials belongs to the Thrift family (Plumbaginaceæ). They have a tufted habit or growth and succeed well in sandy loam on a sunny rockery. It is best to plant them in small nooks where they are not likely to be overrun by other plants. Not suited for smoky districts. Plant in March or April. The plants may be increased by seeds sown outdoors in March; by cuttings inserted in pots of sandy soil in a cold frame in August; or by layering the shoots similarly to pinks in July. The only species we can recommend is A. glumaceum. This produces charming rosy blossoms in short spikes during the summer. The leaves are closely set with sharp spines. Natives of Asia Minor.

Acanthus (Bear's-Breech). - Hardy perennials with ornamental divided foliage and bold spikes of flowers. belong to the order Acanthaceæ, are easy to grow, and will thrive in sunny or shady positions. Cold, heavy and damp soils do not suit these plants; they require a deep, well-drained loam to succeed really well. For woodland borders, banks, in beds, or as single plants on the lawn, or positions in odd corners, any of the species named below are specially suitable. Plant in October, and propagate by seeds sown in pots or boxes in slight warmth in March, by cuttings of the roots, or division of the plant in March or April. The chief species are: A. candelabrum, handsome foliage, and white or purplish blossoms, borne on spikes 4 to 5ft. high; A. mollis, divided heart-shaped leaves, white or rosy flowers, 3 to 4ft.; A. m. latifolius, same as last species, except that it is more robust and handsome; A. spinosus, cut leaves, purplish flowers, 3 to 4ft.; and its variety spinosissimus, rosy-pink flowers, white spines, 3ft. Natives of S. Europe.

Achillea (Milfoil or Yarrow).—Hardy border and rockery perennials belonging to the Daisy family (Compositæ). All the species have finely cut foliage and bear yellow, white or pink flowers. They are of easy culture and will succeed in any good garden soil and sunny position. Plant in October or March, and propagate by division of the plants in March or April. Those which are best adapted for rockery culture are: A. rupestris (Rock Yarrow), white, 3in.; A. tomentosa (Woolly Yarrow), yellow, 1ft.; A. Ageratum (Sweet Manolin), white, 6in; and A. Clavennæ (Silvery leaved Yarrow), 8in. For borders, A. Millefolium roseum (Rosy Yarrow), 2 to 3ft.;

A. Eupatorium, yellow, 4 to 5ft.; and A. Ptarmica fl. pl. var. The Pearl (Double Sneezewort), are the best kinds to grow. All flower in summer. Natives of Europe.

Aciphylla (Spear Grass or Bayonet Plant).—Hardy perennials, natives of New Zealand, and belonging to the Carrot family (Umbelliferæ). Plants of bushy habit with sword like, spiny-pointed leaves, and bearing white flowers in umbels on stems 5 to 6ft. high. They are interesting plants to grow in a sandy soil on a sunny rockery. Plant in March. Increased by seeds sown in sandy soil in a cold frame in spring, also by division of the plants in March. The only two species are A. Colensoi, growing several feet across in a few years; and A. squarrosa, a less vigorous grower, and the one generally met with in British gardens.

Aconitum (Monk's-hood).—The species of this genus are highly poisonous plants, but otherwise very handsome, free-flowering, herbaceous perennials. They belong to the Buttercup family (Ranunculaceæ). All the species will succeed admirably in a shady or partially shady border, and also do well under trees. They are also suited for growing on the margins of lakes or ponds. None of the species should be grown in borders in the vegetable garden owing to the risk of the roots being mistaken for those of horse-radish, etc. Any good, ordinary soil will suit them. Do not disturb their roots often, then they will grow and flower more freely. Plant in October or March. All are easily increased by seeds sown outdoors in April, or by division of the roots in March. following are the chief kinds: A. Napellus (Common Aconite or Monk's hood), blue, July, 4 to 5ft.; A. Napellus versicolor, blue and white; A. chinense (Chinese Monk's-hood), blue, July, 4ft.; A. Fischeri (Syn. A. autumnale), bluish-purple, July to November, 3 to 4ft.; A. Wilsoni, bluish-purple, with dark veins, summer, 6ft.; A. japonicum (Japanese Monk's-hood). flesh, July to September, oft.; and A. Lycoctonum (Wolf'sbane), violet, July, 4 to 5ft. Natives of Europe and N. America.

Actæa (Bane-berry; Herb Christopher).—Perennial herbaceous plants belonging to the Buttercup family (Ranunculaceæ). They have elegant foliage and graceful inflorescence, and are specially adapted for growing in moist, shady borders. A peaty soil, or one in which decayed leaves predominate, appears to suit these plants best. Plant in October or March. Increased by seeds sown in boxes in a cold frame, or in a shady border in spring; also by division of the root stocks in March or October. The most noteworthy kinds are: A. alba,

white, May and June, 12 to 18in., berries white; A. spicata, white, July, 2ft., berries black; A. spicata rubra, flowers like parent species, but with red berries. The berries, which are borne in autumn, are very poisonous. North American plants.

Adenophora (Gland Bellflower).—A genus of hardy perennials, belonging to the Campanula family (Campanulaceæ). In general appearance they resemble the campanulas, differing only slightly in the botanical structure of the flowers. They make handsome border plants, and require to be grown in a sunny position, and a rich, moist loamy soil. The best way to obtain a stock of these plants, or to increase them, is by sowing seeds in light soil, in boxes or pans, in a cold frame in spring. They dislike disturbance at the roots. Following are the chief kinds: A. Potanini, lovely pale blue, 1½ft.; A. stricta, dark blue, very beautiful, 2½ft.; A. verticillata, violet blue, 2½ft.; A. lilifolia, blue; and A. Potanini alba, white, 1½ft. All flower in summer. Natives of Europe and Asia.

Adonis (Pheasant's Eve; Ox-eve).—Hardy annuals and perennials, belonging to the Buttercup family (Ranunculaceæ). The perennial species, with the exception of A. pyrenaica, do best on sunny rockeries, in a good loamy soil. October or March, and mulch liberally with well-rotted manure. They are slow growers, and dislike disturbance at the roots. The annual species will succeed in ordinary sunny or partially shady borders. They are, however, not so interesting or effective as the perennial kinds. Seeds of the latter should be sown in March or April, where the plants are required to grow; the perennials are best increased by division of the roots in March. The annual species are: A. autumnalis, scarlet, July, 1ft.; A. æstivalis, crimson, June, 1ft. The perennials are: A. vernalis, yellow, spring, 1ft.; A. pyrenaica, golden-yellow, July, 1ft., does best in a shady position; A. amurensis, yellow, February and March, 1ft.; A. amurensis fl. pl., double yellow, also flowering in February. Europe.

to the Wallflower family (Cruciferæ), and specially adapted for culture on sunny rockeries. They require a deep sandy loam. E. grandiflorum is the best of the perennial species. This grows 18in. high, is of shrubby habit of growth, and bears pretty rosy-pink and lilac blossoms freely during the summer. Plant so that its shoots can trail over stones. E. cordifolium, grows 6in. high and bears lilac and rose flowers in summer. E. persicum is a dwarf species, with deep rose flowers; and E. pulchellum is another dwarf kind, with purplish flowers. These

are all perennials. Of the annual species, Æ. cappadocicum (Syn. Æ. Buxbaumi) rose, 3in., is the only one worth growing. All may be reared from seeds sown in the open in April; perennial species also by cuttings, inserted in sandy soil in a cold frame in summer.

Ajuga (Bugle Flower).—Dwarf perennials, belonging to the Sage family (Labiatæ). A genevensis is an excellent plant for carpeting bare spots by the side of woodland paths, or forming an edging to borders. It grows 6 to oin high, and bears spikes of pretty flowers in May. A reptans atropurpurea has foliage of a rich purple bronze tint, and A reptans variegata, silvery toliage. Both are blue flowered, and make charming edgings to beds and borders, or look well massed on borders. The last two only grow 4in. high. Plant in autumn or March. Increased by division of the plants in October or March. Europe.

Althæa (Hollyhock).—The hollyhock is one of the showiest and most stately of hardy plants. It belongs to the Mallow family (Malvaceæ), is a native of China, and strictly a perennial, though in many soils it is of biennial duration only. There are single and double varieties in many shades of colour. All are easily raised from seed sown outdoors in May, the seedlings being transplanted in a nursery bed as soon as large enough to handle, and finally planted in their permanent positions in October to flower the following summer. Another method is to sow seeds as soon as ripe in autumn in gentle heat, grow the seedlings in small pots in a cold frame till April, then plant them out in the borders. These will flower late in the summer. Yet another mode of propagation is by cuttings of the side growths at the root or on the base of the flower-stems. These should be removed with a thin slice of the old plant attached to the base, and be inserted singly in small pots filled with light, sandy soil, then placed in a cold, shady frame, and kept more or less close till rooted. This may be done in spring or summer. In the case of very scarce sorts the side-shoots of the flower-spikes may be cut into small lengths, each with a leaf attached, and embedded in light sandy soil in a cold frame in late summer. Cut off the leaf before inserting the cutting. These cuttings will root by spring and make nice little plants. For ordinary garden decoration, however, a good strain of mixed seedlings, singles or doubles, will give good results. It is really only the named sorts that need to be increased by cuttings. Moreover, you get much stronger plants from seeds, and this is a point of great importance to amateur gardeners. Having reared the plants, the next thing is to prepare the soil. Hollyhocks delight in a rich

soil and a sunny position. A medium soil, not too light or too heavy, suits them well. If heavy, the plants die in winter; if light, they suffer from drought in summer. Where the soil is heavy, mix plenty of grit, leaf-mould, and decayed manure with it, so as to lighten it, and also trench deeply. Where it is light, dig deeply also, and place a thick layer of cow dung between each layer or spit of soil. A little clay mixed with a light soil would also be beneficial. In the case of ordinary soils, plenty of rotten manure and decayed turf should be mixed with them. The best time to plant choice sorts is the end of March; and the same remarks apply to seedling plants that have to be purchased. Home-reared seedlings can In the spring-time, when growth be planted in October. actively begins, it will be a good plan to place a stout stake to each plant, and as the flower-stems develop tie them to this. In sheltered gardens stakes are not indispensable, as the plants will take care of themselves, and we really think they look better not too formally braced up. In May it is a good plan to mulch the surface of the soil around each plant with decayed manure; indeed, this is absolutely necessary in the case of light soils. When the spikes get well advanced give liquid manure once or twice a week. In dry weather, too, copious waterings, especially on light soils, will be advisable. When the flowering season is over, cut the stems off to within a foot of their base, and a little later on draw the mould up round the base of the plants to protect them. In the case of any choice sort, it will be well to carefully lift and pot the root, then place it in a cold frame till spring. This precaution is necessary on heavy soils. Those plants that survive the winter should be top dressed with decayed manure, this being forked in. If it be desired to save seeds, gather the pods late in autumn when brown, spread them on a sheet of paper near a warm window to finish ripening, then remove the seeds, dry them, and store in packets till spring, or sow at once. The hollyhock is specially liable to injury by the hollyhock fungus and red spider.

Alyssum (Madwort).—Pretty rockery or border perennials belonging to the Wallflower family (Cruciferæ) A. maritimum (Sweet Alyssum), known also as Kæniga maritima, grows a foot high and bears honey-scented, white flowers. An excellent kind for edgings to beds and borders. Sow thinly in March where required to flower. It will grow in any ordinary soil or sunny position. A. maritimum nanum ("Little Gem") is a dwarf variety of the preceding, growing 6in, high and bearing white flowers. Useful for dwarf edgings to borders or carpet beds. Sow where required to grow in March, or in boxes in a cold frame in April, transplant when large enough

into other boxes, and plant out in May, A. maritimum variegatum has silvery-vellowish foliage, grows 4 to 6 in. high, and makes a splendid edging plant for beds or borders. Increase by cuttings or division. The former should be inserted in boxes or in beds in a cold frame in August or September, kept there till spring, then planted out. Division may be carried out in autumn or spring. The Sweet Alyssum, though generally known and grown as an annual, is really a perennial. It is only when grown on old walls or in sandy soils that it retains its perennial habit. The variegated form, however, is a true perennial. Of the other species, the best known is the Gold Dust, Money-bags, Yellow Alvssum, or Rock Madwort (A. saxatile). This is a shrubby species, growing ift, high, with hoary foliage and rich yellow blossoms borne in April and May. There is a dwarf variety named compactum, and one called variegatum, which has vellowish-white foliage. two former may be reared from seed, and the latter by cuttings only. All three are suited for the rockery, or as edgings to A. montanum has hoary foliage, grows about 4in. high, and bears vellow, fragrant flowers in early summer. Good rockery plant. A. alpestre grows 3in. high, bears vellow flowers in June, and is well suited for growing on old walls or in the clefts or chinks of a rockery. A. argenteum has silvery foliage, vellow flowers borne in June, and grows 6in. high. A. gemonense sulphureum is a new pale lemon-coloured kind, well adapted for the rockery, or as an edging to, or for massing, in herbaceous borders; height 6in. A. rostratum is a silvery-leaved, yellow-flowered species, blooming in early summer, and adapted for border edgings or for rockeries; height 6in. We ought also to mention the new double-flowered form of A. saxatile, known as A. saxatile, fl. pl. This grows 6in, high and bears masses of brilliant golden-yellow blossoms in April and May. It is a decided acquisition for massing in borders or on the rockery. All the species named, excepting A. maritimum and its varieties, will succeed in any good, ordinary soil that is not too heavy and damp in winter. We have found it a good plan to mix plenty of old mortar with the soil. They may be planted in October or March. Propagation is effected by cuttings inserted in a shady border in summer, or in pots in a cold frame in August; by division of the roots in October or March; or, excepting the double and variegated sorts, by seeds sown outdoors in April or May. Natives of Europe and Asia.

Amarantus (Prince's Feather; Love-lies-bleeding).— Hardy and half-hardy annuals, belonging to the natural order Amarantaceæ. The hardy species include the Love-liesbleeding (A. caudatus), with pendulous racemes of dark-red flowers, and growing 2ft. high; also the Prince's Feather (A. hypochondriacus), with dark-purple flowers borne in upright spikes; height 3ft. The tender species are A. Henderi, various tints, 3ft.; A. melancholicus ruber, crimson foliage, 1ft.; A. salicifolius, crimson foliage, 1ft.; and A. tricolor splendens, red, yellow, and green foliage, 1ft. The hardy kinds should be sown outdoors in March or April, and the seedlings thinned out to a foot or so apart. They will succeed in sun or partial shade. The tender kinds must be reared in a heated greenhouse or on a hotbed in March, be carefully transplanted into boxes and pots, hardened off in May, and planted out in June. A sunny position and a not too heavy soil are desirable for the tender kinds. The hardy kinds are natives of N. America, and the tender ones of the Tropics.

Ammobium (Winged Everlasting).—A genus of plants which yield what are known as "Everlasting flowers," and belong to the natural order Compositæ (the Daisy family). Only one species is cultivated, and that is A. alatum, which is a native of New Holland. It grows 2½ft. high, bears silvery white chaffy flowers, with yellow centres, and is strictly a perennial, but is usually grown as a hardy annual. There is a variety named grandiflorum, which bears larger flowers. It is propagated by seed, which may be sown in a cold frame in September, and the seedlings planted out in May; or, better still, in heat in March, the seedlings being planted out ir. May or June. A light soil and a sunny position suit it best. Gather the flowers with long stems in August, tie them in small bunches, and hang head downwards in a dry, airy place for a few weeks, then they will be available for indoor decoration.

Anagallis (Pimpernel).—Hardy and half-hardy annuals and perennials, belonging to the Primrose family (Primulaceæ). They are all very pretty for border and rockery culture. indica (Indian Pimpernel) is a hardy annual with trailing shoots and pretty blue flowers borne in July. Sow seeds where required to grow in April. A. linifolia or Monelli (Italian Pimpernel), is a perennial, but best grown as a half-hardy annual, with bright blue flowers, and not exceeding 6in. in height. Of this species there are several varieties-to wit, Parksii, bright red; Phillipsii, bright blue; sanguinea, crimson; lilacina, lilac; and Wilmoreana, bluish-purple with yellow eye; all well worthy of culture. Sow in small pots in heat in March, harden off in cold frame in April, and plant out without disturbing the roots in May. In soils and districts where this species maintains its perennial character it may also be increased by cuttings or division. A. tenella (Bog Pimpernel) is a British species, with trailing shoots and rosy blossoms, borne in July

and onwards. It grows naturally in boggy places, therefore is best cultivated in damp corners, the margins of pools, or with other bog-loving plants in the bog garden. Plant in March or April. Increased by seeds sown in damp spots in March, or division of the roots in October or March. It is a perennial.

Anchusa (Alkanet).—Hardy perennials and biennials, members of the Borage family (Boraginaceæ). All the species have rough, hairy stems and leaves. The perennial species worth growing are A. italica, bright blue, summer blooming, and 3 to 4ft. high; A. sempervirens, bright blue, blooming in May, and growing I to 2ft. high. The biennial species are A. capensis, blue, July, 18in.; and A. hybrida, violet, summer. We cannot recommend the Anchusas for culture in small gardens; they are too coarse and weedy. For large gardens and rough, mixed borders they are all right. Grow in ordinary soil and plant in October or March. Readily increased by seed sown outdoors in April, or by division of the roots in autumn or spring. A. capensis is best reared from seed sown in a cold frame in late summer, and the seedlings planted out the following May. A. capensis is a native of S. Africa, the rest of Europe.

Androsace (Rock Jasmine) .- A genus of hardy perennial or alpine plants, belonging to the Primrose family (Primulaceæ). They are extremely pretty and interesting plants to grow on rockeries in country gardens, but not suited for town or suburban gardens. In their native habitats they grow at very high altitudes, consequently are thoroughly The following are the most deserving of culture: A. carnea, with green, mossy foliage and pink flowers, May to July, 3 to 4in.; A. ciliata, growth dense and cushion-like, flowers carmine-red, June, 3in.; A. lanuginosa, foliage, silverygrey, flowers bright rose with yellow eye, June to October, 6in.; A. sarmentosa, downy foliage, flowers rose-coloured, May, 6in., a most charming species; A Laggeri, mossy foliage and pink flowers borne in numbers in March, very pretty. Besides the above perennials there is a pretty biennial species, which readily propagates itself from self-sown seed, namely, This bears small, white flowers freely in early summer. All the species succeed best in the clefts or chinks of sandstone or limestone rock. The chinks or nooks should be first filled with sandy loam and peat, and a little cow dung. Fix the plants in firmly, and if the soil has a tendency to crumble down, seal it with fresh cow dung. The plants should be so placed that the soil behind is equally moist, but not stagnant. Drip is most injurious to these plants. Nor will they thrive long in rockeries constructed mainly of burrs. Androsaces are propagated by seeds sown in sandy, peaty soil in a cold frame; by cuttings in pots of sandy soil in a cold frame in August; division of the plants in spring. Natives of the European Alps.

Anemone (Wind-flower).—Here we have a very interesting and showy genus of hardy plants, belonging to the Buttercup family (Ranunculaceæ). Some of the species are among the first of hardy flowers to brighten our gardens in the early part of the year, while others follow in succession up to late autumn. The anemones are certainly a most useful genus of plants to grow in large or small gardens. There are many really good species and varieties in cultivation, as the following list will show: A. alba, flowers white, appearing in June, height 6in., suitable for rockery or borders, loamy soil; A. alpina, flowers white, cream, yellow, and purple, variable, May, height 12 to 18in., loam with a little lime rubble added, borders or rockeries; A. angulosa (Syn. Hepatica angulosa), flowers sky-blue with black anthers and yellow styles, February and March, height 6 to 12in., partially shady rockeries or borders, good ordinary soil; A. apennina (Apennine Windflower), flowers sky-blue, borne singly in March, height 6in., partially shaded borders, sandy loam, peat, and leaf-mould; A. apennina alba, white; and A. apennina rosea, rose; and A. blanda (Blue Winter Wind-flowers), flowers blue, January to March, height 6in., rich, loamy soil, well drained, sunny rockeries or grassy banks.

A. coronaria (Poppy Anemone) is a popular species bearing single and double flowers, varied in colour, and appearing in spring and summer, height 6 to 12in. Of this species there are several strains, such as the Chrysanthemum-flowered. Caen, Nice, and St. Brigid, these having been obtained by careful selection from the normal type. The species and its varieties are tuberous-rooted, easily reared from seed or procured as tubers. The colours vary through all the shades of lilac, carmine, rose, violet, crimson, etc., and the blooms, apart from their decorative value in the garden, are equally good for cutting. To grow the Poppy Anemone and its various forms well the soil must be deeply dug, and well enriched with decayed manure and leaf-mould. They will not tolerate heavy, damp soil, nor one that is too light. They do well, as a rule, in land partially shaded by fruit trees, the latter affording them protection from cold winds in winter and early spring. tubers are purchased, plant them in October or November, in warm, sheltered districts, or in February or March in cold districts. The tubers should be planted 3in. deep and 6in. apart. After flowering, and the leaves are withered, lift and dry the tubers, storing them away till planting time. We only advise choice varieties to be grown thus. Where a quantity of these flowers are required, especially of the St. Brigid strain, it is really better to rear the plants from seed. The seed germinates very readily in good soil, and you get very strong plants. The seeds should be mixed with some sand or dry mould, and the whole well rubbed together to separate the fluffy seeds. They can either be sown broadcast and raked in, or in shallow drills 6in. apart. If you buy seeds, try and sow them in January or February, not later; if you save your own, then sow in July cr August, as soon as the seeds are ripe. Seeds sown in March and later do not germinate so Germination takes place very slowly indeed, consequently patience is needed. It usually takes seven months from the time the seed is sown till the plants flower. Those sown early in the year will flower in autumn; those sown in August the following spring. The beds must be well watered in dry weather. The roots may be allowed to remain in their beds so long as they continue healthy. We prefer to make a fresh sowing annually, and to discard the old roots after flowering.

A. hortensis fulgens (Scarlet Wind-flower) is a very showy species; flowers brilliant scarlet-crimson, borne in May, height ift.; rich loam with old mortar rubble mixed with it, partially shaded rockery or border; plant in October or November. A. pavonina (Peacock Anemone) is a double-flowered variety of the latter, requiring similar cultural details. A. Hepatica (Hepatica triloba), blue, February, with its varieties, alba, white; cœrulea, blue; cœrulea, fl.-pl., double, blue; lilacina, mauve; rubra, pink; rubra fl.-pl., double, pink; and Barlowi, blue; are charming early spring flowers, which succeed best in a deep, rich, well-drained soil and sheltered borders. They must not be disturbed very often, otherwise they will not flower.

A. japonica (Japanese Wind-flower) is a well-known garden flower, which does equally well in town, suburban, or country gardens. Besides the typical rose-coloured form there are numerous varieties, such as alba, white; Collerette, white, semi-double; elegans, rose; elegantissima, pink, semi-double; Mont. Rose, rose-pink, semi-double; Profusion, rosy-red; Prince Heinrich, rich pink, double; Queen Charlotte, delicate soft pink; Rosea superba, rose; Rubra, rosy-crimson; Silver Cup, creamy white, with three to four rows of petals; Whirlwind, white, with a double row of petals. These anemones require a deep, rich soil, and may be grown in sun or shade. They should be interfered with as little as possible, then they will grow into large clumps and flower profusely. Plant in autumn or March.

A. nemerosa (Wood Anemone), white, and its sky-blue variety

robinsoniana, are pretty spring-flowering kinds. The former may be naturalised in shrubberies, and the latter grown on a rockery in good soil, or naturalised in the grass. A. Pulsatilla (Pasque-flower), a native of our chalky downs, flowers purple, May and June, height 6 to oin., is a good plant to grow on a sunny rockery; add a little chalk or old mortar to the soil. A. rivularis, flowers white with purple stamens, height 2ft., does well in damp spots by the side of a pond or stream. A. stellata (Star Anemone), flowers red, purple, rose, or white, April, height 10in.; succeeds best in a light sandy soil and sheltered position. A. sylvestris (Snowdrop Anemone), grows 12 to 18in. high, and bears white snowdrop-like blossoms in April. There is a large-flowered form called Major, and a double one called flore-pleno. A light, rich, moist soil and a shady position suit this species best. There are many other species, but we have described the best of them.

Where not otherwise specified, anemones should be planted in October or November, or in March. They should not be disturbed too frequently. With regard to propagation, all the kinds not specified to be reared from seeds should be increased

by division in October or March.

Antennaria (Cat's-Ear).—Hardy perennials, belonging to the Daisy family (Compositæ). A. dioica tomentosum is a dwarf species extensively used as a carpet bedding plant. It only grows an inch high, and has silvery foliage. A. margaritacea (Pearly Everlasting) is a taller species, growing a foot or so high, with cottony foliage and white flowers. The latter, if dried, are suitable for indoor decoration in winter. A. tomentosum is suitable for carpeting or edgings to borders. Increased by division of the roots in autumn or early spring. A. margaritacea is adapted for sunny borders. Grow in ordinary soil, plant in October, and propagate by division in autumn or spring. Natives of Europe.

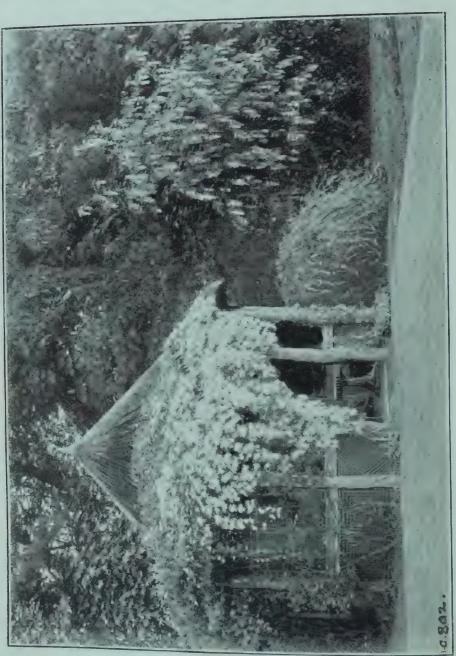
Anthemis (Chamomile).—Hardy perennials of the Daisy order (Compositæ). Being of a weedy nature they are not very extensively grown. Those worthy of culture are: A. tinctoria Kelwayi, clear yellow, height 18in.; A. tinctoria, Mrs. H. T. Brooks (Cream Daisy), soft pale creamy flowers, height 18in. Grow in a sunny border in good ordinary soil. Plant in autumn or spring, and increase by division of the roots at planting time, or by seeds sown outdoors in April.

Anthericum (St. Bernard's Lily).—A genus of handsome hardy perennials, belonging to the Lily family (Liliaceæ). They make excellent border plants or for naturalising in woodlands, etc. A. liliago (St. Bernard's Lily) grows a couple of feet high, and bears pure white blossoms on graceful spikes



A SIMPLE GARDEN ARBOUR.

The arbour has a foundation of rustic wood, over which the branches of the Mock Orange (Philadelphus coronarius) forms a cool canopy of greenery and fragrant blossom. See p. 24 and 407



AN IDEAL SUMMER HOUSE.

heather, the caves being fringed with the The best type of summer house to have in rustic wood, thatched with graceful drooping shoots of Clematis montana. This is constructed

in summer. The variety Majus bears much larger flowers. A native of N. Africa. A. ramosum is a graceful plant with grassy foliage and branching spikes of small white blossoms. Native of Europe. All the species require a well-drained and rich soil. Heavy soils should have plenty of decayed manure and leaf soil mixed with them, and light ones a liberal dressing of rotten cow manure. Damp, water-logged soils must be avoided. They are excellent plants on a partially shaded border, but will also do well in sun. Plant in October or March. Mulch with rotten manure every spring, then the plants will develop into large clumps and flower freely. Propagation may be effected by division of the roots in autumn or spring, also by seeds sown in pots or boxes in a cold frame at any time. See also Bulbinella and Paradisea.

Antirrhinum (Snapdragon).—The Antirrhinum or Snapdragon is one of our most popular garden flowers. A. majus. the species from which all the numerous varieties grown in English gardens have sprung, is a native of this country, and may often be seen growing wild on old walls and chalky railway banks. The only other species worthy of note here is A. Asarina, a trailing plant with greyish, clammy foliage and pale vellow or white flowers. It is a most interesting plant. We once succeeded in making a cross between this and A. majus, and were successful in rearing plants, but unfortunately lost them before flowering. This species requires to be grown in well-drained sandy loam on a sunny rockery. increased by seeds sown in sandy soil in a cold frame in March, and planted out later. With regard to the varieties of A. majus, there are tall, medium, and dwarf kinds or strains, the latter being known as the Tom Thumb strain. Nearly every seedsman has his own special strain. For the best go to the leading seedsmen who make it their business to supply seeds of carefully selected sorts only. Seeds may be sown in August in a border at the foot of a south wall, in gentle heat in February or March, in a south border outdoors in March, or in June or July in the open garden. August-sown plants need protecting by a frame in winter, and planting out in spring. The February sowing can be hardened off in a frame in March, and planted out in April. The March sowing may be transplanted in May or June, and the June sowing in autumn or early the following season. The August and February plants would flower in summer, the others the next season. Though perennials, it is best, in the case of heavy soils and cold districts, to treat the Snapdragon as a biennial, rearing fresh plants annually. In warm districts and on well-drained soils Snapdragons will grow and flower freely for years. Where choice named varieties are grown

these must be perpetuated by cuttings inserted in pots or boxes filled with sandy mould and placed in a cold frame during July or August. Keep them in the frame till March, then plant out.

Aquilegia (Columbine) .- A charming race of hardy perennials or biennials, belonging to the Buttercup family (Ranunculaceæ), and natives of Britain, Switzerland, Siberia, The native species A. vulgaris is a true India, and America. perennial and very hardy. There are single and double forms of it of various shades of colour, and the plants grow from 1 to 3ft. high. This kind does well for small gardens or for naturalising in woods and the wild garden. A. canadensis (Canadian Columbine), flowers scarlet, orange, and green; A. cœrulea (Rocky Mountain Columbine), purple and white, with long spurs; A. glandulosa, blue, tips of petals white, sepals dark blue; A. truncata, red and yellow; A. Skinneri, ted, tips of petals golden-yellow, straight, spreading spurs; A. chrysantha, primrose-yellow, purple-tipped sepals, straight, slender spurs; are the leading other species which partake more of the character of a biennial than a perennial. That is to say, in the South, at any rate, the plants invariably die after flowering, and hence require to be constantly replaced by new ones. In Scotland, however, nearly all the foregoing retain their perennial character, the climatic conditions apparently suiting their requirements better. There is a very pretty hybrid named Stuartii with brilliant blue sepals, white and blue petals, and yellow anthers. For ordinary garden decoration hybrid columbines, with long spurs, such as Veitch's strain, are better than the named sorts. They are easily reared from seed, and will grow and flower profusely in any soil that is not too heavy. Soils of a heavy nature should be well dug, have plenty of leaf-mould, old mortar, decayed manure, and grit introduced. Light soils should be freely dressed with rotten cow dung. Columbines prefer a half-shady or a shady border to a full sunny one. Plant any time in spring. Seeds may be sown in the open garden in April, or in boxes in a cold frame in March. Sow thinly. Transplant the seedlings to their flowering positions the following spring. In the case of Stuartii, sow the seeds where the plants are to grow and thin out later, but do not transplant. Seedlings so reared will flower the next year. Choice named sorts may be propagated by division of the root stock in March or April.

Arabis (Rock Cress).—Dwarf tufted or trailing hardy perennials, members of the Cabbage family (Cruciferæ). The White Rock Cress (A. albida) is a well-known edging or rockery plant, with hoary leaves and snow-white blossoms, borne in

spring. An easily-grown plant; will thrive in any soil in a sunny spot. Another popular species is A. alpina plena (Double White Rock Cress). This yields pretty double white stock-like flowers on long stalks, and is a very effective edging or rock plant. Two other varieties of A. alpina are well worth growing, namely, compacta, with dense cushions of whitish foliage studded with white flowers; and aurea variegata, with golden foliage, very suitable for edging. There is also a silvery-leaved variety of A. albida, named argentea variegata, which makes a good edging plant. Other species occasionally grown in gardens are: A. blepharophylla, rosy-purple; A. lucida, white; A. lucida variegata, yellow-edged leaves; and A. petræa, white. These are suitable for rockery culture only. All will succeed in good, ordinary soil in sunny, dryish positions. Plant in spring or autumn. Remove flowers from the variegated sorts. May be increased by seeds sown out-doors in April, transplanting the seedlings 2 or 3in, apart in July, and planting out finally in autumn. Also increased by cuttings dibbled in a shady spot in summer and kept moist, or by division directly after flowering. Natives of Europe.

Arctotis.—Half-hardy herbaceous perennials or annuals with hoary leaves and daisy-like blossoms. Natural order Compositæ. The best-known perennial species are: A. grandiflora, bright orange, July, 1½ft.; A. arborescens, ray florets white, pink beneath, with a yellow disk, July, 2ft.; A. acaulis, orange, July, 4in. There is also an annual species, A. leptorhiza, orange, 2ft., which blossoms very freely. All are natives of the Cape. The perennial species may be increased by seeds sown in heat in spring, or by cuttings struck in sandy soil in a cold frame in summer. Protect from frost in winter and plant out in March or April. Sow seeds of the annual species in the borders in April. These plants prefer a dry, sunny spot. Ordinary soil.

Arenaria (Sandwort).—Dwarf, creeping alpine plants, adapted for rockery culture. They belong to the Pink family (Caryophyllaceæ). A. balearica (Creeping Sandwort) grows less than an inch high, creeps over the surface of soil or rock, and forms a dense green carpet. In spring the latter is studded with pretty white blossoms. A useful plant for carpeting bare spots or where choice bulbs are grown. Plant between the chinks of stones. A. montana grows 3in. high and bears large white flowers in summer; a good plant to trail over stones on a rockery. A. grandiflora grows 4 to 6in. high and bears white flowers in summer; a pretty rock plant. A. purpurascens bears purplish flowers, has a tufted habit of growth, and is an interesting rockery genus. All will succeed in ordinary soil. Increase by division of the plants in

summer, or by seeds sown in pots of sandy soil in a cold frame in spring, and kept moist. None of these plants will withstand drought, so keep the soil moist.

Armeria (Thrift or Sea Pink).—Hardy perennials, with grass-like leaves, belonging to the Sea Lavender family (Plumbaginaceæ). The Thrifts are summer-blooming plants. The common species known as Thrift (A. maritima) grows wild on the sea cliffs of this island, and is also extensively used as an edging to borders in small gardens. It has red flowers. There is a white variety named alba, also a crimson one named coccinea, all of which are worthy of culture. Other showy kinds are: A. bracteata rubra, crimson; A. bracteata rosea, rose; A. cephalotes rubra, red; A. maritima laucheana, crimson; and A. plantaginea splendens, rose. All the lastnamed sorts are best grown on a sunny rockery in good, ordinary soil. They dislike dampness. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in April, also by division of the plants in March.

Artemisia (Wormwood).—Hardy shrubby or herbaceous perennials, belonging to the Daisy family (Compositæ). The Southernwood or Old Man (A. Abrotanum) is the best known species, this being grown in most gardens for the sake of its aromatic hoary foliage. This grows 2 to 4ft. high. Of the other species A. anethifolia, a herbaceous perennial, growing 3 to 5ft. high and bearing panicles of white flowers in autumn; A. annua, 5 to 6ft., an annual with elegant foliage and yellow flowers, most useful for cutting; A. alpina, 6 to 8in., yellow, useful for rockery culture, are the only ones worthy of notice here. The foregoing will succeed in any dry soil and sunny Plant the perennials in spring, and sow seeds of the annual species outdoors in April. The Southernwood may be increased by slips or cuttings inserted in the ground in summer; the herbaceous kinds by division of the root in April. Natives of Europe and Asia.

Asclepias (Milk Weed or Swallow Wort).—Hardy herbaceous perennials, natives of N. America, and belonging to the Nat. Ord. Asclepiadaceæ. The species most worthy of culture are: A. acuminata, red and white, July, 2ft.; A. Douglasii purple-lilac, fragrant, July, 2 to 3ft.; A. incarnata, red or purplish, July, very fragrant, 3 to 4ft.; A. quadrifolia, lilacwhite, fragrant, July, 1ft.; A. syriaca (Syn. A. cornuta), purple, fragrant, July, 3 to 5ft.; A. tuberosa, bright orange, July to Sept., 1 to 2ft.; A. variegata, white with red centre, July, 3 to 4ft. A. incarnata requires a moist soil, such as the margin of a pond, and the others a rich sandy or peaty soil. Plant in spring. Increased by seeds sown in sandy soil in a

cold frame in spring, or by division of the roots in spring. N. American plants.

Asperula (Sweet Woodruff).—Pretty dwarf-growing hardy perennials or annuals, belonging to the Nat. Ord. Rubiaceæ. A. odorata, a perennial, is a native of our woods, and a favourite old garden plant. It grows about a foot high, has square stems and whorled leaves, also small white flowers borne in May and June. A. cynanchica is another native perennial, growing a foot high and bearing rosy-red or white and blue flowers. A. orientalis, also known as A. azurea setosa, is a charming dwarf annual, growing 6 to 10in. high and bearing dainty little blue flowers, which are very sweet. The foliage of A. odorata, when dried, has a new-mown hav scent. A. odorata will succeed in any soil and in any position; useful for carpeting bare spaces in shrubberies. A. cynanchica is best suited for a dry bank or rockery, while A. orientalis makes a charming edging plant, or may be grown in patches in borders. Increased by seeds sown in spring where required to grow. Also the perennial species by division of the roots in spring. Europe and Asia.

Asphodeline (King's Spear).—This plant belongs to the Lily family (Liliaceæ), and is a hardy herbaceous perennial. The only species we shall deal with is A. luteus, and its double-flowered variety, A. luteus fl.-pl. Both grow 3 to 4ft. high and have awl-shaped, furrowed leaves borne on erect stems. The flowers are yellow and fragrant. Both kinds will thrive in ordinary soil in partially shady or sunny borders. Plant in autumn or spring and increase by division of the roots in spring. Mediterranean region.

Asphodelus (Asphodel).—Hardy tuberous-rooted perennials, members of the Lily family (Liliaceæ). A. albus, white, May and June, 2ft.; A. ramosus, white, summer, 3 to 4ft.; and A. creticus, yellow, July, 2ft., are the only kinds worthy of culture. Even these are not recommended for small gardens. They are adapted for large borders, shrubbery fringes, and wild gardening only. Plant in ordinary soil in autumn or spring, and increase by division of the roots in March or April. S. Europe and N. Africa.

Aster (Starwort or Michaelmas Daisy).—A family of hardy herbaceous perennials, well known to garden lovers by the name of the Michaelmas Daisy. Until a few years ago the latter was regarded as a somewhat weedy plant and not worthy of cultivation in a collection of choice perennials. Since the specialists have set to work and produced varieties with a better habit of growth, and bolder flowers with a greater range of colours, the Michaelmas Daisy has been recognised as

worthy of a place in the choicest collection of hardy flowers. Both the species and the varieties are invaluable for border decoration and for yielding flowers for cutting. They require a rich soil to do well, since they are gross feeders, therefore see that plenty of rotten manure is dug into the soil prior to planting. The plants may be massed together in one large bed or in a border, or be planted singly among other perennials in a mixed border. A bed of Michaelmas Daisies and Early Flowering Chrysanthemums produces a very pretty effect in autumn. The best results are obtained by growing young plants. When allowed to develop into large clumps the growth gets weedy and the flowers poor. The clumps should be divided every second or third year, rejecting the centre or exhausted original plant, and replanting the outer offshoots, which will make nice plants in a short time. Planting may be done in autumn or spring. Propagating is effected by seeds sown in light soil in a cold frame, or in gentle heat, in spring; by cuttings in spring or summer, inserted in sandy soil in a cold frame; division of the plants in the manner previously described in October or March. With regard to species the following are those we deem worthy of mention herein: A. acris, blue, August, 2ft.; A. alpinus, purple, July, oin.; A. amellus, purple, August, 2ft.; A. cordifolius, blue, Sept., 2ft.; A. dumosus, mauve, Oct., 2 ft.; A. ericoides, white, Sept., 3ft.; A. grandiflorus, violet, Dec., 3ft.; A. lævis, lilac and purple, August to Oct., 4 to 6ft.; A. lindlevanus, violet, Oct., 1 to 2ft.; A. Linosyris, yellow, August to Sept., 2ft.; A. longifolius, white; Oct., 3ft.; A. multiflorus, white, Sept., 4ft.; A. Novæ-Angliæ, purple, Sept., 4 to 6ft.; A. Novi-Belgii, blue, August to Oct., 4 to 5ft.; A. ptarmicoides, white, Sept., 2ft.; A. puniceus, blue or rosy-lilac, Sept., 6ft.; A. Shorti, purple-blue, Oct., 3 to 4ft.; A. Strachevi, lilac-blue, May, 6in.; A. Tradescanti, white; Sept., 4ft.; A. turbinellus, mauve, August, 2 to 3ft.; A. versicolor, white, rose-lilac, Sept., 12in.; A. vimineus, white, Sept., 21ft.; A. Thomsonii, blue, July to October, 2ft. Of varieties there are an immense number. To mention them all would require more space than we can devote to the subject, so we shall simply enumerate a list of twenty-five of what we consider to be the best kinds. They are: Amellus bessarabicus, violet, 2ft.; Amellus ameloides, bluish-lilac, 18in. Amellus cassubicus, blue, 2ft.; Amellus Framfieldi, blue, 2ft.; Amellus Riverslea, violet-blue, 2ft. The foregoing are charming kinds for the mixed border. All flower in early autumn. Other pretty sorts are Cordifolius Diana, soft lilac, 32ft.; diffusus horizontalis, white and rose, 21ft.; ericoides Clio, blush, 3ft.; Hon. Vicary Gibbs, bright pink, 3ft.; J. Allsop, lilac, 2ft.; Little Tom, lilac, 1ft.; NovæAngliæ Lil Fardell, rich pink, 4ft.; Novæ-Anglæ Mrs. F. J. Rayner, rosy-crimson, 4ft.; Novi-Belgii Apollo, lavender-blue, 4ft.; Novi-Belgii arcturus, blue, 2ft.; Novi-Belgii, lavender-blue, mauve-blue, rosy shade, 2ft.; Novi-Belgii Psyche, rosy-lavender, 3ft.; Novi-Belgii lævigatus, rosy-red, 2ft.; Mrs. Moon, white, 3ft.; Mrs. Perry, rose, double, 3½ft.; Perry's Pink, rosy-pink, 3ft.; Chapmanii, lavender-blue, 3ft.; Maacki superba, purplish-blue, 3ft.; vimineus Cassiope, white, 2½ft.; and Howard H. Crane, blush lilac, 4ft.

Astilbe (Goat's Beard).—Hardy herbaceous perennials, belonging to the Saxifrage family (Saxifragaceæ). They have elegant foliage and bear their flowers in graceful, feathery racemes or spikes. These plants do well in moist borders or on the fringe of a pond, and prefer a partially or wholly shaded position. The soil should be fairly rich. If grown in borders, give plenty of water in dry weather. Plant in spring. Increase by division of the roots in spring. The chief kinds are: A. chinensis, rose, very effective, summer; A. japonica, better known as Spiræa japonica, white, very graceful, 2ft.; A. Davidii, reddish-purple, 4ft.; A. rivularis, yellowish-white, 3 to 4ft.; A. rivularis major, handsome foliage, white flowers; A. Thunbergii, a species growing 18in. high and bearing white flowers in May. Natives of Japan, India, etc.

Astragalus (Milk Vetch).—Hardy perennials, members of the Pea family (Leguminosæ). Of this genus there are about 600 species, but very few of them are worthy of culture except in very large gardens. The only species we shall mention here are A. adsurgeus, bluish-purple, June, 6in.; A. pentaglottis, purple, blue and white, June, 4in.; A. monspessulanus, rosy-lilac and white, June, 18in.; and A. vaginatus, rosy-purple and white, July, 1ft. The foregoing will thrive on any dryish sunny rockery, or on the margins of borders. Ordinary, light soil. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring, or by cuttings in a frame during summer. Natives of Europe.

Astrantia (Master-wort).—Herbaceous perennials with palmate leaves and flowers surrounded by leafy bracts. Nat. Ord. Umbelliferæ. These plants are suitable only for the wild garden or woodland borders. They do well in shade and in ordinary soil. Not advised for small gardens. A. major grows 1 to 2ft. high, bears white or pink flowers in umbels, surrounded by bracts which are white on the underside and pink on the upper one. This is a naturalised plant in woods in Worcestershire. A. helleborifolia is a Caucasian species, growing 1 to 2ft. high and bearing pink flowers surrounded

by pinkish bracts. A. minor, a native of the Alps, grows only 6in. high, has rosy-white flowers and white bracts. All flower in summer. Increased by seeds sown in a cold frame in spring; or by division of the roots in autumn or spring.

Aubrietia (Purple Rock Cress) .- Showy, evergreen dwarf perennials, extensively cultivated on rockeries and in patches on the margins of borders. They worthily deserve a place in every garden. Members of the Stock and Wall-flower family (Cruciferæ). The chief species: A. deltoides is lilac-purple, 2 to 4in. A. Campbelli, violet-blue, 4in.; A. græca, pale purple, 4in.; A. purpurea, purple, 3in.; and A. violacea, violet-purple, 3in.; A. taurica, purple, late; Bridesmaid, soft blush, a charming plant; Dr. Mules, glowing purple; tauria alba, white, very compact; Fire King, crimson; Leitchlinii, rose, very pretty; Souvenir de W. Ingram, rose-pink to blue; Lavender Queen, lavender-blue; A. græca superba, larger-flowered than the type; and Moerhemi, rose, good for massing, are varieties of the foregoing species. There are likewise two pretty variegated sorts, namely, purpurea-argenteis variegatus, silvery foliage, and purpurea aureis variegatis, golden foliage. All flower in spring, and when grown in sandy loam, or light ordinary soil, the plants will be literally covered with a dense mass of colour. Aubrietias love the sun, and will thrive in the chinks of old walls, in the spaces between flagstones on paths, on dryish sloping banks, in masses on the margins of borders, or on the rockery where their dense masses of sage green shoots will hug the stones. They do not succeed well in shade or in heavy soils or damp position. We use them effectively as a carpeting for choice bulbs. Plant in autumn or spring. Increased by seeds sown where required to grow in spring, or in boxes of sandy soil in a cold frame, afterwards transplanting the seedlings; or by cuttings inserted in a shady border in summer; by layering the shoots after flowering and lifting and replanting in autumn; by division of the plants after flowering. S. Europe.

Baptisia (False Indigo).—Hardy herbaceous perennials, belonging to the Pea family (Leguminosæ), and natives of N. America. B. australis, blue and white, June, 4 to 5ft., is the best known species. Suitable for large borders. B. alba, white, June, 2ft., is a pretty species for smaller borders. Another desirable species is B. exaltata, blue, June, 3 to 4ft. Adapted for large borders. Grow in ordinary soil in sunny borders, planting in autumn or spring. Increased by seeds sown outdoors in April, also by division of the roots in autumn. Of similar growth and habit to Lupins.

Barbarea (Double Yellow Rocket).—A hardy perennial, belonging to the Wallflower family (Cruciferæ). B. vulgaris fl.-pl. grows about 18in. high and bears bright yellow double flowers freely from May to September. A showy and interesting plant for large or small gardens. There is also a variegated variety with yellowish foliage which is useful for edging. Both will succeed in ordinary soil in a sunny border. Plant in autumn or spring. The double kind is increased by cuttings of side shoots inserted in a shady border in summer, or by division in spring. The variegated one may be increased likewise or by seeds.

Bellis (Daisy).—Favourite old garden flowers that are not grown nearly so generally as their merits deserve. In days gone by hardly a garden existed that did not contain the Double White or the Double Red Daisy. These simple and showy plants make excellent edgings to spring beds or to borders, and are exceedingly easy to grow. The best sorts to grow are: Double Red, Double White, Rob Roy, scarlet; Snowflake, white; Rubens, crimson scarlet; Venus, white, very large flower; The Bride, white, large; Madame Crousse, lilac, exceedingly pretty; not forgetting the old "Hen and Chickens," and the white and crimson-flowered forms of Aucubæfolia, with mottled foliage, and the striped red and white Victoria. The foregoing will thrive in any good moist garden soil. On light soils they are apt to shrivel and die in hot weather, and in heavy damp soils to rot in winter. Our practice is to lift the plants directly they have flowered, divide them, and then replant six inches apart in a nursery bed under the shade of fruit trees or on a north border. Here they remain till October or March, and are then transferred to their flowering quarters. Under this code of treatment the plants do well. In small gardens the plants may be left undisturbed for a couple of years, then be lifted out, divided, and replanted. Double daisies may be reproduced from seed, but a large proportion of the seedlings only bear single flowers.

Beta (Beet).—The variegated and purple-leaved forms of the common garden beet are often used for summer bedding in the flower garden. B. cicla variegata (Chilian Beet) has leaves upwards of 3ft. long and of varying tints from orange to crimson. Other popular kinds are: Braziliensis, crimson and yellow-leaved; dracænæfolia, narrow dark crimson foliage; Victoria, blood-red leaves; and Crimson Willow-leaved, with narrow, willowy, reflexed, crimson-bronze foliage. Sow the seeds in sandy soil in heat in February or March, transplant when large enough to handle into boxes, and finally plant out in the garden in May.

Blumenbachia.—Hardy or half-hardy annuals, belonging to the Nat. Ord. Loasaceæ. Interesting plants, with elegant foliage and curious flowers. B. coronata has narrow, finelycut foliage and white flowers with hooded hairy petals, height ift. Another curious species is B. insignis. This is of trailing habit of growth and white flowered. May be grown by those who desire to cultivate something out of the common. Sow the seeds in heat in March and plant out in May; or outdoors in April where required to grow and flower.

Bocconia (Plume Poppy).—B. cordata, the only species we shall refer to here, is a handsome hardy herbaceous perennial, growing 5 to 7ft. high, with glaucous leaves and buff or creamy flowers borne in large panicles at the apices of the shoots. It is a native of China and belongs to the Poppy family (Papaveraceæ). It may be grown to good effect in clumps or groups on the lawn; in the mixed plant border, or in the shrubbery. Does well in suburban gardens. Will grow in any good, ordinary soil. Plant in autumn or early spring. Increased by seeds sown in slight heat in spring; by suckers in spring; by division of the roots in autumn or March; by cuttings of young shoots in summer.

Brachycome (Swan River Everlasting).—B. iberididifolia is a pretty blue-flowered hardy annual, belonging to the Daisy family (Compositæ). It hails from Australia. There are also white and rose-coloured varieties of it, all of which are desirable border plants for summer flowering. They grow about a foot high. Seeds may be sown in heat in March, and the seedlings grown on in pots or boxes till June, then planted out; or the seeds may be sown in the open border at the end of April. Whether sown outdoors or planted out the seedlings should be fully 6in. apart. They prefer a warm sunny spot and a sandy, well-drained soil. The flowers are very useful for cutting.

Bulbinella.—B. Hookeri (Syn. Anthericum Hookeri) is a hardy perennial, very similar in growth to Anthericum liliago and Paradisea liliastrum. It grows I to 3ft. high, and bears yellow, lily-like flowers in early summer. It is a native of New Zealand, and requires similar cultural treatment to the last-named genera. Lily order (Liliaceæ).

Bupthalmum (Ox-eye).—A genus of hardy perennials, belonging to the Daisy Order (Compositæ), and natives of Austria. Three species are in cultivation, namely, B. salicifolium (Syn. B. grandiflorum), growing 18in. to 2ft. high, and flowering from June to October; and B. speciosum (also known as Telekea speciosa), 2ft., blooming in July. All are

yellow-flowered. These plants are suitable for large gardens only, where they should be planted in masses of half-a-dozen or more plants in the wild garden or in partly shaded shrubbery borders. Ordinary soil. Plant in autumn or spring. Increased by division in October or March.

Calandrinia (Rock Purslane).—Pretty dwarf hardy or half-hardy annuals and biennials, belonging to the Purslane order (Portulacaceæ), hence open their flowers during sunshine only. C. discolor is a Chilian species, growing 12 to 18in. high, and bearing rosy flowers with vellow stamens in summer. Treat as an annual, sowing seeds in a warm border early in May. C. grandiflora is also a native of Chili, grows 1ft. high, has shrubby stems, and bears rose-coloured blossoms throughout the summer. Height 12 to 18in. Sow in the open border in April or May. C. oppositifolia is a Californian species with succulent leaves and white or blush flowers, borne in summer. C. umbellata comes from Peru, grows 6in, high, and bears magenta-crimson flowers in late summer. Both the latter require to be treated as half-hardy annuals, sowing the seeds thinly in pots of fine, sandy soil or peat in heat in February. hardening off the seedlings in a frame in May, and planting out in the rockery or border early in June. Each potful should be planted out whole, not divided. In mild districts the seeds of both species may be sown outdoors in May to flower the following season. C. umbellata sometimes assumes a perennial habit and flourishes for several seasons.

Calendula (Pot Marigold).—An old garden annual so common as to be almost classed as a weed in many gardens. E. officinalis, the species, belongs to the Daisy order (Compositæ), bears orange-yellow flowers with a dark centre freely throughout the summer and autumn, and often in winter. It grows about a foot high. Once sown it will reproduce itself freely from seed. The varieties, Meteor, apricot-orange, striped with primrose; Orange King, orange, double-flowered; Superba, a double form of the common kind; and Prince of Orange, deep orange, striped with primrose, are preferable to the species for choice garden culture. These are desirable annuals for small gardens, as they are so easily grown. Sow the seeds where required to grow in April, and thin the seedlings out to a foot apart when 6in. high.

Callirhoe (Poppy Mallow).—Hardy herbaceous perennials, natives of N. America, and belonging to the Mallow order (Malvaceæ). The principal species is C. involucrata, a prostrate growing plant bearing large violet-crimson flowers with yellow stamens and purple stigmas in summer. It makes a most desirable rockery plant, but must be given plenty of ground, as

its stems grow 2 to 3ft. in length. The other species are: C. alcæoides, 2 to 3ft., flowers rose; C. digitata, 2 to 3ft., flowers reddish-purple; C. Papaver, 3ft., purple-red; and C. pedata, trailing habit, flowers crimson. These may be grown in ordinary soil in sunny borders. Plant in spring. Increased by seeds sown in heat in spring and the seedlings planted out in May.

Campanula (Bellflower) .- A genus of dwarf and tall hardy perennials, annuals and biennials, belonging to the Nat. Ord. Campanulaceæ, of which the well-known Canterbury Bell is a typical and familiar example. The species named below are worthy of a place in every garden. Those specially adapted for rockeries, or growing in masses on the margins of borders, are: C. Allioni, blue, summer, 3 to 4in.; C. alpina, deep blue, July, 3 to gin.; C. cœspitosa, blue, May to August, 4 to 6in.; C. cospitosa alba, white; C. carpatica, blue, June to August, o to 12in., with its varieties alba (white), turbinata (purple, 4 to 6in.); and pallida (grey-blue); C. fragalis, lilac-purple and white, July and August, 4 to 6in.; C. garganica, pale blue to white, May to Sept., 3 to 6in.; C. isophylla, lilac-blue, and its varieties alba (white) and Mayi (mauve-blue), July to Sept., 3 to 6in.; C. Portenschlagiana, blue, Aug. and Sept., 3 to 4in.; C. pulla, violet-blue, June, and its hybrid form C. G. F. Wilson, deep blue; C. pusilla, pale blue, 4in., and its varieties, alba (white) and pallida (pale blue); C. Raineri, blue, June, 2 to 3in.; C. Hendersoni, mauve, summer, 10 to 12in.; C. rotundifolia, blue, June to August, 6 to 12in., and its varieties, Hosti (rich blue) and alba (white). C. turbinata is generally classed as a species, but modern botanists deem it to be a variety of C. carpatica which see. There is a white form called alba; and others called Distinction, blue; and White Star, white. The taller species adapted for border culture are: C. alliaræfolia, white, July, 12 to 18in.; C. glomerata, blue, Sept. and Oct., 18in., and its varieties, alba (white), and dahurica (deep purple); C. grandis, violet-blue, June, 1 to 2ft.; C. lactiflora, pale lilac and white, July to Sept., 2 to 6ft.; C. latifolia, blue, July, 3 to 6ft., with its varieties Burghalti (lilac, 2ft.), macrantha (purple, 3 to 5ft.), macrantha alba (white, 3 to 5ft.), macrantha pallida (pale purple, 3 to 5ft.), Van Houtei (violet blue, 2ft.); C. persicifolia, blue, June and July, 1 to 3ft., with its varieties alba (white), alba coronata (white and semi-double), alba grandiflora (white and large), arba plena (white and semidouble), cœrulea duplex (soft blue and semi-double), cœrulea fl.-pl. (double-blue), cœrulea grandiflora (blue and large), Daisy Hill (lavender blue, large and semi-double), Moerheimi

(white and semi-double), Tom Thumb (white, large, 1ft.); C. punctata, white, spotted with red, summer, 18in.; C. pyramidalis, blue, July to Sept., 4 to 6ft., and its variety alba (white); C. rapunculoides major, purplish-blue, June and July, 2ft.; C. Trachelium, blue, July, 2 to 3ft., Aug. to Sept., 3 to 4in.; and its variety, album (white). Then there is the biennial species, C. Medium, better known as the Canterbury Bell. This bears blue, white, purple, and pink flowers freely in summer, and grows 2 to 3ft. high. Of this there are several distinct forms, as Calycanthema (with duplex flowers), Cup and Saucer, and Hose in Hose. The only annual species worthy of note here is C. Erinus, blush-rose or white, summer, 3 to 6in. The rockery or alpine species require to be grown in sunny positions. isophylla and its variety will do well in the chinks of old walls or in the chinks of the rockery. C. cospitosa makes an excellent plant for growing in masses on the rockery or the margins of borders. C. pusilla also does well on old walls, and so does C. rotundifolia and its varieties. C. carpatica may be grown as an edging to borders or in masses on the margins thereof. May also be grown as a rockery plant. All do best in a well-drained and gritty, sandy loam. They must be kept moist in dry seasons. The tall kinds like a deep, rich soil. Species like rapunculoides, grandis, persicifolia, latifolia, and its varieties, and Trachelium, are excellent plants to grow in masses in the wild garden, or in shady borders or woodland gardens. The other kinds will do well in partial shade or in full sun. The Canterbury Bell is a first-rate plant for naturalising on banks or for growing in masses in the border. A fine example of its adaptability for the latter purpose may be seen on the railway bank near Sutton, in Surrey. The bank there is a mass of white, blue and pink in summer. The annual species (C. Erinus) is suitable for rockery culture, the seed being sown in April. The best time to plant the alpine kinds is in March or April, and the others in autumn or spring. Nearly all the species mentioned herein may be raised from seed sown in sandy soil in a cold frame in April, and the seedlings transplanted later into their flowering positions. If the various species are required true to type it is better to increase them by division in autumn or spring, or by cuttings in gentle heat in spring. The Canterbury Bell may only be reared from seeds sown outdoors in April, or in heat in March. In both cases transplant the seedlings early, 6in. apart, in a nursery bed, let them remain there till autumn, when plant in their flowering positions.

Cannabis (Hemp).—A hardy annual with graceful foliage, belonging to the Nettle order (Urticaceæ). C. sativa,

the only species, furnishes the hemp of commerce. Is easily reared from seed sown in the open ground in April. Does well in town gardens. Ordinary soil.

Carbenia (Blessed Thistle).—A hardy biennial with ornamental foliage, belonging to the Thistle family (Compositæ). The only species grown is C. benedicta, better known as Cnicus benedictus. The plant has large green leaves blotched and marbled with white, and yellow thistle-like flowers. It is a noble and striking plant for a sunny border. In good soil it will attain a height of 3 or more feet. Sow seeds in the open borders in September or April.

Cardamine (Lady's Smock, Cuckoo Flower).—The common species, C. pratensis, is a well-known native plant, which grows freely in damp meads. The double-flowered form (C. pratensis fl.-pl.), is sometimes grown in gardens. It grows about a foot high, and bears white or pale purplish flowers in spring. Other species which are worthy of note are: C. asarifolia, white, 12 to 15in.; C. rhomboides, white, 12in.; C. rhomboidea, purple, 12in.; C. rotundifolia, white, 6in.; and C. trifolia, white, 3 to 6in. All are perennials, belonging to the Wallflower order (Cruciferæ), and suitable for growing in damp spots. Increased by seeds in the case of the single varieties, and by cuttings or division in that of the double sorts.

Catananche (Blue Cupidone).—Hardy perennial, native of S. Europe, and a member of the Daisy order (Compositæ). C. cœrulea, the only species grown, grows about 2ft. high, has hoary, lance-shaped leaves, and bears blue flowers on long stalks in July and August. There is also a variety named tricolor, with white flowers marked with blue or rose. Both kinds are specially suitable for yielding flowers for cutting. They will thrive in any fairly good soil in sunny borders. Easily reared from seeds sown in heat in March, or outdoors in April. They are really best treated as annuals; but on well-drained soils they will succeed as perennials, in which case propagation may be effected by division.

Centaurea (Knapweed).—A genus of tender and hardy annuals and perennials, belonging to the Daisy order (Compositæ). The annual species, which are hardy, are the Cornflower (C. cyanus); and the Purple, Yellow and White Sweet Sultans (C. moschata). The cornflower exists in many varieties, blue, red, white, purple, etc., and with single and double flowers. These are reared from seeds sown in the open ground in September to flower early the following season, also in April



A PICTURESQUE WATER GARDEN AT MOUNT USHER.

The water fall, over a series of cascades and the margins are fringed with groups of Saxifraga peltata and other waterside plants. A pretty type of water garden. See p. 19.

A BEAUTIFUL NATURAL WATER GARDEN.

Water carpeted with White Water Lilies (Nymphæn alba) and margins fringed with nobble trees

to flower in summer. The seedlings may easily be transplanted in a young state. The plants may be grown in patches or lines. The Yellow Sweet Sultan grows 18in, high and bears citron-yellow flowers, which are deliciously fragrant, in summer. The Purple and the White Sweet Sultan are of similar height, and bear musk-scented flowers. The Sweet Sultans require a well-drained light soil and a sunny position to do well. Sow the seeds in patches or rows outdoors in April and May. C. odorata alba (Svn. C. Margarita) is a fragrant white annual of great value for cutting. Requires similar culture to the Sweet Sultans. The ornamental-leaved species are: C. cineraria (Syn. C. candidissima), with finely-cut silvery foliage: C. Clementei, silvery foliage; and C. ragusina, also with silvery foliage. These are attractive plants in a young state for summer bedding, being much used for edgings and for ensuring contrasts in association with dark-leaved plants. They may be reared from seeds sown in heat in early spring, planting out the seedlings late in May; or increased by cuttings of side shoots inserted in sandy soil in a cold frame in August. When rooted lift and place in small pots and winter in a heated greenhouse. Old plants will often survive the winter outdoors where the soil is not too heavy or damp. The flowering species (perennials) worthy of culture in sunny borders in good, ordinary soil are: C. babylonica, 6 to 10ft., native of the Levant, leaves lance-shaped and silvery, flowers yellow, July: C. dealbata, 1 to 2ft., Caucasus, leaves pinnate and clothed with white hairs beneath, flowers rose, summer; C. gymnocarpa, 2ft., S. Europe, leaves elegantly cut and covered with satiny down, flowers purple, summer; C. macrocephala, 4 to 5ft., Armenia, robust foliage, flowers golden-yellow, July; C. montana, blue; C. montana alba, white; C. montana rosea, rose: C. montana rubra, red; and C. montana, purpurea purple; are useful kinds for yielding flowers for cutting. Height 1 to 2ft.; native, Pyrenees. C. Fenzlii is a pretty biennial species, growing 4ft. high, and bearing canary-vellow flowers in large heads. The perennial species should be planted in autumn or spring in groups or masses. Increased by seeds sown outdoors in April, also by division of the root stock in autumn or spring. The biennial species may be reared from seed sown outdoors in September or April.

Centranthus (Spur Valerian).—Hardy annuals and perennials, belonging to the Valerian family (Valerianaceæ). The Red Valerian (C. ruber) is an old inhabitant of English gardens, and has naturalised itself on old walls and railway banks, especially in the chalky districts. It is also a favourite old cottage garden plant. It grows 2 to 3ft. high, has stout,

woody stems, and a perennial root-stock. The normal colour is red, but there are also white or crimson-coloured forms of it. The flowering season extends from June to September. This species will succeed in ordinary soil in any dryish sunny border, or on banks, rockeries, or old walls. Plant in autumn or spring. Increased by seeds scattered about on walls or banks in autumn, or sown on a sunny border in September or April; also by cuttings of side-shoots inserted in sandy soil in a cold frame in August, and division of the roots in March. The annual species (C. macrosiphon) is a native of Spain, grows 1 to 2ft. high, and bears rosy-carmine flowers in July. Of this there is a white and a dwarf variety. Sow seeds in the open border or on a sunny rockery in April.

Cerastium (Mouse-ear Chickweed).—The Cerastiums belong to the Pink order (Caryophyllaceæ). C. tomentosum is a popular edging plant, having silvery evergreen foliage, and growing 4 to 6in. high. Makes a good permanent edging to a bed or border, and is also used in carpet bedding. It bears white flowers in early summer. These, however, have to be removed when used for carpet bedding. Does well also on a sunny rockery. C. Biebersteinii has evergreen woolly leaves, grows 6in. high, bears white flowers in summer, and makes a good edging or rockery plant also. C. grandiflorum is a deciduous species with hoary or woolly leaves and white flowers. This also is a good edging plant. These are really the only kinds worth growing. They are readily increased by dividing the plants in March, also by cuttings inserted in a shady border in July or August. Also easily reared from seeds sown in the open in April. To make a good edging plant the divisions a few inches apart; or, if seedlings or rooted cuttings, an inch or so apart in March, or in September and October.

Ceratostigma (Lead-wort).—The only species is C. plumbaginoides (Syn. Plumbago Larpentæ). It is a hardy perennial, growing ift, high and bearing lovely cobalt-blue flowers in September and October. A native of China and a member of the Nat. Ord. Plumbaginaceæ. This charming plant succeeds best in sandy loam on a sunny rockery. Here its creeping roots will soon spread into a large mass, and produce a charming effect when in flower. Plant in October or March. Increased readily by division in spring.

Cerinthe (Honeywort).—Half-hardy annuals, natives of Europe and members of the Borage family (Boraginaceæ). They are particularly showy plants, and consequently are only worth growing in large gardens where there is plenty of room.

The best known species are: C. aspera, yellow, July, 1 to 2ft.; C. minor, yellow, June, 12 to 18in.; C. retorta, yellow and violet, July, 12 to 18in. Sow in patches in sunny borders in April, and thin out the seedlings later to 8 or 12in. apart.

Chænostoma.—Perennial herbs, natives of the Cape and members of the Foxglove order (Scrophulariaceæ). The species named below are only suitable for large gardens. They are: C. cordata, white, June, 12 to 18in.; C. fastigiata, rose or white, June, 6 to 9in.; C. hispida, lilac or white, July, 3 to 6in.; C. linifolia, yellow, Sept., 1ft.; and C. polyantha, lilac and yellow, July, 4in. Though perennials, they require to be treated as half-hardy annuals, sowing the seeds in heat in March, transplanting the seedlings later into boxes, hardening off in May, and planting out in sunny borders in May. Cuttings may be taken from the plants in August, and struck and wintered in a greenhouse.

Cheiranthus (Wallflower).—The wallflower belongs to the Nat. Ord. Cruciferæ, and is one of the oldest, sweetest, and most popular of all garden flowers. Poets have sung its praises for ages, and although not a native of Britain, it has naturalised itself freely on hoary old ruins and modern railway banks, and made itself quite at home. The wallflower (C. Cheiri) has been vastly improved of late years, and now we have a wonderfully varied strain of this popular flower. There are single and double varieties, but the former are by far the prettiest. A few of the best known strains of singles are: Harbinger, crimson; Belvoir Castle, yellow; Ruby Gem, ruby violet; Eastern Queen, chamois to salmon-red; Purple Queen, ruby; and Primrose Dame, lemon-yellow. Of the doubleflowered, the Double German is an excellent strain, vielding dwarf plants and a profusion of pretty spikes of deliciously fragrant flowers. Most seedsmen have their own strains of doubles also. The seeds of both the single and double kinds should be sown outdoors in April, and the seedlings transplanted, 4 to 6in. apart, in a nursery bed, as soon as the third leaf forms. When planting remove the point of the tap-root. The wallflower loves lime, and it is a good practice to scatter a little lime over the seed bed and the nursery bed before sowing or planting. Firm soil is necessary to grow bushy plants. In September lift the plants carefully from the nursery bed and replant them in their flowering quarters, sunny beds or borders. Make the soil firm so that the growth may be hardy and sturdy and better able to resist the frost. Do not make the mistake of allowing the seedlings to remain in the seed bed till they are planted in their flowering quarters. Plants so treated produce tap-roots and straggly, lanky stems, and rarely

The double-flowered kinds may be increased give satisfaction. by cuttings or slips, i.e., short side-shoots removed with a heel of the old stem. Insert these in a shady border or in a cold frame in August. While the single and double forms will on well-drained soils assume the character of perennials, and live for many years, yet the best results are obtained from plants grown as biennials. Wallflowers readily reproduce themselves from seed. C. Marshallii is a hybrid perennial wallflower. growing a foot high, and bearing orange flowers in spring. This is a neat and showy plant to grow on a sunny rockery. C. mutabilis (Changeable Wallflower) is another perennial species which is remarkable for producing its early flowers of a cream colour, and the later ones purple or striped. are increased by cuttings inserted in cold frames in August, or by seed sown outdoors in April.

A recent introduction is a new hybrid winter-flowering wall-flower called Cheiranthus kewensis. It is the result of a cross between C. Cheiri (Common Wallflower) and C. mutabilis (Changeable Wallflower), and bears flowers of various shades of sulphur, orange-yellow, and purplish-violet on slender stems from November to spring. The flowers are deliciously fragrant, and the plant is quite hardy, forming a perennial bush. Sow seeds outdoors in July to ensure plants for flowering in autumn.

Chelone (Turtle-head; Shellflower).—The Chelones are handsome and interesting hardy perennials, natives of N. America and members of the Foxglove order (Scrophulariaceæ. There are two species which are worthy of cultivation in large or small gardens, and these are C. Lyoni, pink, July to September, 3 to 4ft., and C. obliqua, violet-purple, summer, 2 to 3ft. There is also a white variety of the latter species named alba. All are very elegant and graceful when in flower. They succeed well in good, deep, well-drained ordinary soil and a sunny position. Plant in autumn or spring. Increased by seeds sown outdoors in April, or in a cold frame in September, planting the seedlings out the following April; cuttings in sandy soil in a cold frame in summer; and division of the roots in October or March.

Chenopodium (Goosefoot).—Two species of this genus are grown as ornamental plants in the flower garden. Both are hardy annuals and members of the Beetroot order (Chenopodiaceæ). C. atriplicis has angular reddish shoots and leaves coated with a rosy-violet powder; height 3ft. C. capitatum grows a foot or so high, has triangular leaves, and strawberry-like fruits surrounded by red calyces. The former hails from China, and the latter from S. Europe. Both are reared from seed sown outdoors in April where required to grow.

Chimaphila.—Shrubby perennials belonging to the Heath order (Ericaceæ). The two species in cultivation are: C. maculata (Spotted Winter Green), a plant with procumbent shoots and leathery leaves, green and white above and red beneath; flowers white, June. The other species is C. umbellata, with glossy, unspotted leaves and greenish-white and red flowers. Both are natives of the N. Hemisphere. They require to be grown in peat and leaf-mould in a moist bed on a partially shady rockery. Plant in spring. Increased by division of the roots in October.

Chrysanthemum.-The annual and perennial species and varieties of this popular genus of hardy plants are unsurpassable for flower garden decoration. Of late years quite a new race of varieties of C. indicum have been introduced for outdoor culture, these being more or less dwarf and sturdy, and flowering from August to November. Prior to the early-flowering forms of the Japanese chrysanthemum being introduced, the old pompon varieties were the only ones grown for early flowering. other kinds grown were usually the old plants of the lateflowering kinds that had been grown in the greenhouse the preceding year, and were simply put in the garden to take their chance of blooming before the frosts destroyed the flowers. The present race of early-flowering Japanese make splendid border plants, flowering most profusely in early autumn. They show to excellent advantage planted with Michaelmas daisies, or grouped in the borders, or massed in beds. There are scores of varieties in specialists' lists, and Mr. D. B. Crane has a complete catalogue of them in his excellent brochure, "Chrysanthemums for Garden and Greenhouse."* Here are the names of a dozen of the best earlyflowering sorts introduced up to the time of going to press: Blush Beauty, blush, 2½ft., Sept.; Cactus, terra-cotta, 3ft., Sept.; Carrie, yellow, 2ft., Sept.; Dolly Price, white, 2½ft., Sept.: Goacher's Pink, pink, 2ft., Sept.; Norbet Purvaez, golden-salmon, 11ft., Sept.; Bronze Dwarf, crimson, golden reverse, 3ft., Oct.; Col. Bernard, salmon-red, 4ft., Oct.; Mrs. I. Harding, crimson, 3ft., Oct.; Horace Martin, yellow, 21ft., Aug.: Bobbie Burns, salmon-pink, 21ft., Aug.; Doris Peto. white, 2ft., Aug. Then the pompons, which have neat, round flowers and a dwarf, compact habit, are also well worth growing in borders. The following will be found an attractive dozen varieties: Flora, yellow, 2ft., Aug.; Frederick Pele, crimson and gold, 2ft., Aug.; J. B. Duvoir, pale pink, 11ft., Aug.;

^{* &}quot;Chrysanthemums for Garden and Greenhouse." Price 2s. 9d, post free. Published by W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.

Jacintha, pinkish-lilac, 11ft., Aug.; La Petite Marie, white, 6in., Aug.; Madame Jolivart, blush-white, 18in., Aug.; Blushing Bride, blush, 2ft., Sept.; Bronze Bride, rosy-lilac and gold, 2ft., September; Fiberta, yellow, 2ft., Sept.; Little Bob, crimson-brown, 18in., Sept.; St. Croutts, pink, 2ft., Sept.; Strathmeath, rosy-pink, 18in., Sept. For a longer list see In the first instance buy strong-rooted cuttings in May and plant the early Japanese 3ft. apart each way in good soil, and the pompons 2ft. apart each way. There must be no stopping or pinching of the shoots; simply let the plants grow naturally, and later on support the branches with stakes. When the buds begin to form give liquid manure occasionally. When the plants have ceased flowering, cut off the stems and in December lift the roots and place them close together in shallow boxes with a little soil, and stand on the staging in a heated house. When the young shoots are 2 to 3in. long, take these off, and insert them in boxes to root. When rooted, transfer to other boxes or to pots, keep in the greenhouse till April, then remove to a cold frame to harden and plant out in May. Those who have no greenhouse may leave the roots in the ground, and when new growth begins in April lift them, pull off the best-rooted portions furnished with healthy shoots, and replant these, throwing away the weak ones. It will thus be seen that the culture of these plants is an extremely simple matter. Those who want fuller details should consult Mr. Crane's book.

We now come to the annual chrysanthemums, which are extremely showy and easy to cultivate. They are adapted alike for small or large gardens. First and foremost among these is C. carinatum (Syn. C. tricolor). This grows 2ft. high, and bears tri-colored, large, daisy-like flowers. Of this there are several varieties, single and double. Thus aureum flore pleno, has double yellow flowers; hybridum, double and semidouble shades of purple; Burridgeanum, white ground with a crimson ring; atrococcineum, dark crimson-brown; and so on. Others will be found in seed lists. Then there is C. coronarium, yellow and white, double and semi-double, and its varieties, album, double white, useful for cutting; sulphureum, lemon-coloured, double, etc. C. inodorum plenissimum is a double white with cut foliage; and C. segetum grandiflorum, a large yellow form of the wild corn marigold, is also a good kind. Morning Star, primrose-yellow, flowers 3 to 4in. in diameter; and Evening Star, golden yellow, are new varieties of the latter. The annual kinds may be sown outdoors in April, afterwards thinning the seedlings out to 8 or 12in. apart; or seeds may be sown in heat in March and the seedlings planted out in May. Given plenty of room and a rich

soil, these annuals will make a brave show of colour in the

garden. They average from 1 to 3ft. high.

Then we come to the hardy perennial species, or Ox-eve daisies, and sometimes classed in catalogues as species of Leucanthemums. There is C. lacustre (Marsh Ox-eye), a species which grows 3ft. high and bears large daisy-like white flowers late in summer; C. latifolium, 3 to 4ft., white florets with a yellow centre; and C. maximum (Shasta Daisy), 2 to 4ft., white with a yellow centre. Of the latter there are several varieties superior to it in every way. King Edward has very large, white, cup-shaped flowers, borne on long stalks. Queen Alexandra has snow-white flowers with a golden centre. Rev. A. Carter and W. H. Gabb are also valuable new forms. The foregoing are all excellent plants to grow in sunny borders for general effect or for yielding flowers for cutting. Plant in autumn or spring. Lift and divide every two or three years. May be increased by seeds sown outdoors in April or by cuttings in a cold frame in summer. One more perennial species remains to be mentioned, and that is C. uliginosum, better known as Pyrethrum uliginosum (Giant Ox-eye). This grows 4 to 6ft, high and bears a profusion of white flowers with a vellow centre during September and October. It is a useful plant to grow at the back of wide borders or in the wild garden. Moreover its flowers come in most valuable for cutting. dwarfer plants are desired pinch out the points of the shoots in May. Plant in autumn or spring. Increased by division in autumn or March.

Last of all this extensive genus of plants comes the Marguerite (C. frutescens). The Marguerite is a somewhat tender plant, and therefore cannot be relied upon to thrive outdoors in winter. It is usual therefore to insert cuttings in a cold frame in autumn, lift and transfer these to pots when rooted. and grow them on in heat in spring, hardening off and planting out in May. To ensure dwarf plants the points of the shoots must be pinched out in the early stages of growth. Cuttings may also be inserted in heat in spring, but these do not do so well as those placed in frames in autumn. The Marguerites are excellent town garden plants, and also most useful for bedding. The species has white flowers with a vellow centre and finely cut foliage. There is also a yellow variety named Etoile d'Or. The foliage of the Marguerite is specially liable to be attacked by a leaf-mining maggot. The only remedy is to burn plants badly infested, and to dig out solitary maggots when seen with the point of a pen-knife or darningneedle.

Chrysoplenium (Golden Saxifrage).—C. oppositifolium is a dwarf native perennial, belonging to the Saxifrage order (Saxifragaceæ), and worthy of cultivation in damp, shady positions or bog gardens. It has golden-yellow foliage, and creeps along the surface of the soil. Plant in spring. Increased by seed, or by division in spring.

Cimicifuga (Bugbane).—Hardy herbaceous perennials, belonging to the Crowfoot order (Ranunculaceæ). The most generally grown species is the Black Snake-root (C. racemosa), a bold, stately plant, growing 3 to 4ft. high, with elegant foliage, and feathery white flowers borne in compound racemes in July and August. The only other species worthy of note are C. americana, white, July, 3 to 4ft.; C. davurica, white, July, 3ft.; C. simplex, snowy white, Sept., 3ft. The flowers emit an unpleasant odour. These plants will thrive in ordinary moist soil in sun or in shade, and are also suitable for shrubbery borders and the wild garden. Plant in autumn or spring. Increased by seeds sown in moist, rich soil outdoors in autumn or spring; or by division of the root-stocks in October or March.

Clarkia.—Hardy annuals, natives of California and N. America, and members of the Evening Primrose order (Onograceæ). This is an exceedingly pretty and showy genus of hardy flowers, the species and varieties of which are grown extensively in gardens of all sizes. C. elegans has purplish stems, grows 18in. to 2ft. high, and bears purple, red or salmon-tinted flowers in leaf racemes. There are double and single forms of this species. Rosea is a pretty pink, single kind; and Salmon Queen, a lovely double, rose-coloured one. C. pulchella has narrow leaves, grows 18in. high, and bears rosy-purple flowers. The varieties, alba, white, single; integripetala flore pleno, petals entire, rosy-purple, double; and Tom Thumb, a dwarf strain, are very beautiful. Sow outdoors, where required to grow, in April or September. When the seedlings are an inch or so high, thin the dwarf varieties to 6in. apart, and the tall ones to 12in. apart. The plants will then make a bushy growth and produce a more pleasing effect. May also be grown in beds.

Cnicus (Fishbone Thistle).—Thistle-like biennials with spiny leaves, more or less variegated with white, belonging to the Daisy order (Compositæ). C. Casabonæ has deep green leaves veined with silver and furnished with brown spines. It grows 2 to 3ft. high, and is a native of S. Europe. C. Diacantha has foliage of a bright shining green, marked with silvery lines and furnished with ivory-white spines; height, 2 to 3ft. Both are grown for the sake of their ornamental foliage as border plants, or for associating with coloured-leaved plants in summer bedding. Increased by seeds sown in the open border in

April, or in heat in February, the seedlings being transplanted in small pots, grown in heat till May, then hardened off and planted outdoors the end of May. Formerly known by the generic name of Chamæpeuce.

Codonopsis (Bell-wort).—Interesting hardy perennials, belonging to the Campanula order (Campanulaceæ). Only one species is worthy of mention here, and that is C. ovata, a pretty Himalayan plant, with bell-shaped flowers, blue, veined with white, and growing about a foot high. The flowering period is June. This plant will grow in ordinary soil in a sunny border. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring. When the seedlings are large enough to handle transplant them into other boxes, and finally plant out in summer. Increased also by cuttings of young shoots in a cold frame in spring, and by division of the roots in autumn. The latter must, however, be done very carefully.

Collinsia.—Hardy annuals, belonging to the Foxglove order (Scrophulariaceæ), and natives of N. America. C. bicolor, and its numerous varieties, are very pretty kinds for massing in borders or beds. Bicolor has lilac and white flowers, and grows a foot high. The varieties thereof are alba, white; candidissima, pure white; alba rosea, white and rose; multicolor, lilac, rose, white, and violet-striped; and marmorata, white, lilac and carmine. C. bartsiæfolia alba grows oin, high, has white flowers, and is suitable for edgings. C. grandiflora has deep blue and lilac flowers; and its variety, violacea, violet and white flowers, both growing ift. high. tinctoria purpurea, reddish-violet, 1ft.; and C. verna, blue and white, 1ft., are also pretty kinds. Seeds of all, except C. verna, may be sown in the borders in September for early flowering, and in April for summer blooming. When the seedlings are well up thin them out to 4 or 6in. apart. They will then make bushy plants and flower more freely. C. verna can only be sown in September in the borders.

Collomia.—A neat, dwarf-growing hardy annual, belonging to the Phlox order (Polemoniaceæ). It is a native of Chili, grows 12 to 18in. high, and bears bright red flowers in summer and autumn. A very showy annual to grow in masses in a sunny border. Ordinary, well-drained soil will suffice. Sow in the open border in April and thin out the seedlings later on to 4 or 6in. apart. This pretty annual (C. coccinea) often reproduces itself from self-sown seeds.

Commelina (Blue Spiderwort).—The only species of this genus that is worth growing is C. cœlestis, a native of

Mexico, and a member of the Spiderwort order (Commelinaceæ). It is a very pretty hardy perennial, growing 18in. high, with fleshy roots, and blue flowers borne in July. There is a white variety of it named alba. Both are very charming old border perennials. They require a warm position and a well-drained, light, sandy loam. Not adapted for heavy soils. In seaside gardens both kinds invariably do well. They display their beauty to the best advantage when planted in bold masses. Plant in autumn or spring. Where the soil is inclined to be at all damp in winter, lift the fleshy roots in October, store them in dry soil in a frost-proof place, and replant in March. Increased by seeds sown in heat in spring, and by division of the fleshy roots in March.

Conandron.—C. ramondioides is the only species of this genus that is cultivated. It grows about 6in. high, has ovate wrinkled leaves, and bears lilac-purple and white blossoms in summer. A native of Japan, and a member of the Gloxinia order (Gesneriaceæ). A very interesting and pretty plant, something like the Ramondia, and requiring, like it, to be grown in the moist crevices of rock-work in a peaty soil. The position must be a sheltered one. Increased by division of the plants after flowering.

Convallaria (Lily of the Valley).—The Lily of the Valley (C. majalis) is too well known to need any lengthy exposition of its merits. It belongs to the Lily order (Liliaceæ), and is a native of not only Britain, but also of Europe, Asia, and the United States. In Yorkshire and many other parts of England the Lily of the Valley grows wild in woods. It is therefore a shade-loving plant, and to grow it well a shady border must be allotted to it. It is quite cosmopolitan in its habits, for it will grow and flower just as well in a shady town garden as in the suburbs or country. Besides the species which bears graceful sprays of white flowers in May, there are several varieties, to wit: Fortin's Lily of the Valley, large foliage, vigorous spikes, and big blooms; Victoria, also a largeflowered kind; prolificans, white, flushed with pink; rosea, rose-tinted flowers; and a double-flowered kind named florens; also a variegated form named variegata. We have already said that the Lily of the Valley loves a shady spot. In making a bed, therefore, choose a north border or a position under the shade of fruit trees. Prior to planting have the ground well dug and plenty of rotten manure, leaf-soil and grit added, for these lilies like such a soil. If the soil be light use cow manure; if loamy or clayey, horse manure. The best time to plant is in September. Open drills 6in. deep, one side of which should be vertical. Grade the crowns into three sizes, large, medium and small, and plant each in a separate bed. Plant the crowns 2in. apart against the vertical side of the trench, and with their points just below the surface. Fill in with soil; then 6in. from this row open another drill, plant as before and so on, till the bed is completed. In dry weather give copious supplies of water, and during the growing season occasional applications of weak liquid manure will be beneficial. In autumn top-dress the bed with well decayed manure. To grow these lilies well it is advisable to lift and replant every third year.

Coptis (Gold Thread).—Evergreen bog plants, belonging to the Buttercup-order (Ranunculaceæ). They are suitable for growing in peaty soils in company with Heaths, Azaleas, and similar shrubs. The best known species is C. trifolia, a native of N. America and Europe, with trifoliate leaves, fine, yellow roots, and white flowers borne in late spring; height, 3 to 6in. The other species are C. asplenifolia, white, summer, 1ft., N.W. America; C. occidentalis, white, summer, California, 6in.; and C. orientalis, white, summer, Japan, 6in. Grow in moist, sandy peat on the margins of borders or on rockeries. Plant in autumn or spring. Increased by seeds sown in sandy peat in cold frames in autumn, or division of the roots in October or March.

Coreopsis (Tickseed).—Hardy annuals and perennials. belonging to the Daisy order (Compositæ), and natives of N. America. The annual species are often placed in another genus, Calliopsis, and will be found described as such in many trade lists. Here we include them in the genus now under notice. The annual kinds are very showy border plants, and the flowers, moreover, are most useful for cutting. Of these, C. atkinsoniana is a pretty kind, with yellow and brown flowers, height 2ft.; C. coronata, orange, spotted with brown, Ift.: C. Drummondi, orange-yellow, Ift.; C. tinctoria, yellow and crimson-brown, 2ft.; C. tinctoria flore pleno, double and semi-double flowers, very pretty, 2ft.; C. tinctoria marmorata, marbled vellow and brown, 2ft.; C. tinctoria atrosanguinea, purple, 2ft.; and C. tinctoria nigra speciosa, dark brown, 2ft. Seeds of the foregoing should be sown in patches in sunny borders in April, May and June, to provide a succession of flowers. If the seedlings are thinned out early to 6 or 8in. apart they assume a bushy growth and have a finer effect. Seeds may also be sown in the border in September to yield an early supply of flowers the following season. Ordinary soil. The perennial species include: C. auriculata, vellow, borne on long stalks late in summer, 2ft., a hardy, free-growing

species; C. grandiflora, bright orange-yellow, summer, 3ft.; C. verticillata, yellow, autumn, 2ft.; lanceolata, yellow, summer, 3ft.; C. rosea, pale rose, July and August, 1ft. Grown in masses in sunny borders in not too heavy a soil, these plants will make a brilliant display of colour, while their handsome flowers, borne on long stalks, will also be found most useful for cutting. C. grandiflora is, unfortunately, liable to die in damp or severe winters, but this difficulty may be easily got over by raising plants from seed in gentle heat in March. transplanting the seedlings outdoors in May, and planting them in their flowering quarters the following September to flower the next season. All the perennials may be planted in autumn or spring. The latter may be increased by seeds sown as advised for C. grandiflora, or in the open border in April: also by cuttings in a cold frame in autumn; division of the plants in spring.

Coris.—The only species of this genus is C. monspeliensis, a dwarf, branching plant, about 6in. high, belonging to the Primrose order (Primulaceæ). It has lilac or rosypurple flowers borne in summer, and thyme-like foliage. Strictly speaking, it is a perennial, but it does best treated as a biennial—that is, reared from seed sown in sandy soil in a cold frame in autumn or spring, the seedlings being afterwards transplanted into boxes or small pots and planted out later, in spring or summer.

Corydalis (Fumitory).—Hardy perennials, members of the Nat. Ord. Fumariaceæ, and adapted for growing on rockeries or old walls. Two of the species—C. bulbosa and C. lutea—are naturalised in England. C. bulbosa is a tuberous-rooted kind, 4 to 6in. high, bearing purplish flowers in April. Is suitable for massing on the margins of borders, or for naturalising in woodland gardens. C. lutea (Yellow Fumitory) has pretty green foliage and yellow flowers borne freely in summer. It grows about ift. high, and is specially adapted for massing on the margins of borders or growing in the chinks of old walls. C. nobilis (Noble Fumitory) is a Siberian species, with yellow flowers borne in May; height 9in. Suitable for border culture or rockeries. All will thrive in ordinary soil in sun or shade. Plant in spring. Increased by seeds sown outdoors in April, or by division of the roots in March.

Cosmidium.—C. burridgeanum is a hybrid between two annuals—Thelesperma filifolium and Coreopsis tinctoria—and hence belongs to the same order (Compositæ). It is a hardy annual, grows 18in. high, and bears deep crimson-purple flowers in summer. Sow seeds where required to grow in ordinary soil in a sunny border in April.

Crambe (Flowering Seakale).—To this genus belongs the edible Seakale. The only species suitable for flower garden culture is C. cordifolia, a native of the Caucasus, and a hardy herbaceous perennial, growing upwards of 6ft. high. It is a very handsome plant, with large, heart-shaped leaves of an imposing aspect, and an immense head of white flowers borne in spreading panicles in summer. A fine plant for large, shady, herbaceous borders or as a solitary plant in the wild garden. Plant in ordinary soil in autumn. Increased by seeds sown outdoors in April, or division of the roots in autumn or March. Nat. Ord Crucifers.

Crepis (Hawk's-head).—Only one species of this genus of Composite plants is worth growing, and that is C. rubra. This is a European annual, growing 8 to 10in. high, and bearing red flowers in autumn. It is suitable for dryish, sunny borders where the soil is more or less sandy. Sow seeds in April where the plants are required to grow.

Cyananthus.—Hardy alpine plants of procumbent habit, natives of the Himalayas, and members of the Campanula order (Campanulaceæ). Two species are grown, namely, C. incana, growing 3 to 4in. high, and bearing azure flowers in August; and C. lobatus, of similar height, but bearing purplish-blue flowers in August. The former succeeds best on a sunny, well-drained rockery in sandy peat, and the latter in peat and leaf-mould in semi-shady clefts of the rocks or stones. This species likes a moist medium for its roots. Plant in autumn or spring. Increased by cuttings in sandy peat in a cold frame in summer.

Dactylis (Cock's-foot Grass).—C. glomerata, the Cock's-foot Grass, is a native pasture grass of no value from a gardening point of view. A pretty silvery-striped form of it named variegata, is, however, largely grown as an edging plant for flower beds and borders. It is of dwarf, tufted habit, growing only a few inches high. It will succeed in any soil that is not too dry, and should be planted in autumn or spring a few inches apart. Easily increased by division of the plants in October.

esting and curious plant from California, and a member of the Sarracenia order (Sarraceniaceæ). The only species is D. californica, and this produces tubular leaves 1 to 2ft. long, each furnished at the apex with a hood or sac ending in two lanceshaped lobes. The leaves are strongly veined and the hood has a crimson tint. Inside the tubular leaves are reflexed hairs, which prevent insects entering at the orifice of the

hood from returning. The plant is supposed to derive some nourishment from the decomposing insects. The flowers are white or pale green and curiously formed. This quaint plant will flourish outdoors in a bed of moist peat and sphagnum moss in the bog garden, or by the side of a pond or stream. A sheltered position and partial shade are desirable. Plant in spring. Increased by division in March.

Datisca.—A hardy herbaceous perennial, belonging to the Nat. Ord. Datiscaccæ, and a native of India. D. cannabina is the only species grown; bears its male and female flowers on separate plants. The plant grows 4 to 6ft. high, has long, graceful stems, pinnate foliage, and yellowish-green flowers. Its chief attraction lies in its graceful habit and foliage. Will grow in ordinary soil and is suitable for shrubby gardens. Increased by seeds sown outdoors in spring.

Delphinium (Larkspur).—Hardy annual and perennial plants of handsome and stately growth, belonging to the Crowfoot order (Ranunculaceæ). The perennial species, with their numerous hybrids and varieties, rank among the showiest hardy border flowers in cultivation. They are adapted alike for small or large gardens. The perennial species include such showy kinds as D. cashmirianum, pale blue, 12 to 18in. high, native of Kashmir; D. formosum, blue, 2 to 3ft., native of Asia; D. grandiflorum, blue, 3ft., native of Siberia, and its white variety album; D. nudicaule, orange-scarlet, 15in., native of California; and D. sulphureum (Syn. D. Zalil) yellow, 4 to 5ft., Afghanistan. The hybrids and varieties are exceedingly numerous, and there are both double and single forms. Florists like Messrs. Barr and Sons and Kelway and Son have been engaged for many years in rearing new varieties. are in every way superior to the species, and should be grown in preference to them for general garden decoration. course, named sorts yield the finest qualities of flower and habit, but a splendid variety of colours and habits may be obtained from a packet of mixed seed of single, semi-double and double forms. For named varieties see florists' catalogues. The species, hybrids and varieties should be grown in sunny borders in a deep, rich, loamy soil with which, prior to planting, plenty of well-rotted manure has been mixed. They make poor growth on light soils unless cow or pig manure has been freely added and the surface of the soil is heavily mulched with mauve in summer. In heavy clay soils the plants are apt to die in winter. To prevent this it is advisable to dig out a hole 3ft. wide and deep for each plant, and to fill in with a compost of two parts loam and one part rotten manure. Deep trenching, adding plenty of grit, decayed



A SIMPLE GARDEN ARCH.

Constructed of a .ew peeled oak branches and covered with a Blairii rose.



efuse and horse manure, will improve a heavy soil and make t better suited for delphiniums. Grow in groups of three, six, or a dozen plants to secure the best effect. Plant 3ft. apart n October or March. To ensure free and long blooming, promptly remove the spent flowers and do not allow seeds to form. Top-dress every spring with rotten manure, and give liquid manure occasionally when the plants are in flower. Every third year lift, divide and replant the roots early in April. The annual species include: D. cardinale, scarlet, 3ft.; D. Ajacis (British Rocket Larkspur), blue, white or pink, 12in., and its varieties, nanum, coeruleum and roseum; D. Consolida, and its varieties, album, coeruleum, roseum, and imperiale, bearing double flowers of shades of blue, rose and white, 21st.; and D. orientale, rich purple, 3ft. The annual kinds make fine plants for massing in the mixed border or on the fringe of shrubberies. Seeds may be sown in the open borders in September to ensure plants for early blooming the next season, or in March or April for summer flowering. seedlings should be thinned out early to a foot or so apart. If the thinning be done in showery weather the thinnings may be planted out elsewhere. The perennial kinds may be increased by seeds sown in gentle heat in spring, the seedlings being afterwards transplanted into boxes, hardened off in May and planted out in June; or in the open border in April, transplanting the seedlings when large enough to handle 4in. apart in a nursery bed, and finally planting out the following spring. Also by cutting's of young shoots in pots of sandy soil in a cold frame in March or April, and division of the roots in March.

pertaria (Toothwort).—There are at least a score species of this genus, but D. bulbifera is the only one we care for. This grows 1 to 1½ft. high, has pinnate leaves, bears purple or white flowers in racemes during the spring, and small bulbils in the axils of its leaves. It belongs to the Wallflower order (Cruciferæ), and is a native of Britain and Europe. A suitable plant to grow in a half-shady border in sandy soil. Plant in autumn. Increased by division of the roots in autumn, or seeds in spring.

Dianthus (Pink, Picotee, Carnation, and Sweet William).

-Hardy plants of great value for garden decoration, belonging to the order Caryophyllaceæ. The Pink (D. plumarius) is an old garden favourite, having been grown for generations in British gardens. The species is seldom grown except on old walls. The double white and other varieties make excellent edgings to borders, or groups on the margins of borders. Moreover, their flowers are so very fragrant. A few good

doubles are Early Blush, pink self; fimbriata alba major, white, with fringed petals; Her Majesty, large white; Lizzie Duval, rose pink, fringed petals; and Mrs. Simkins, white, large and fragrant. There are also Show or Laced Pinks, which are chiefly grown for exhibition. These have the centres of their blooms one colour, with a marginal lacing of a different tint or colour. The old Pheasant's Eye Pink is a semi-double kind with a maroon eye and white fringed petals; a very fragrant old kind. There are likewise hybrid pinks with an elegant habit of growth that flower profusely all the summer, and bear single and double flowers of various shades of white, rose and carmine. Pinks like a well-drained soil with which has been mixed plenty of rotten manure. Damp, low-lying borders and heavy soils do not suit them. A sunny position is also desirable. The best time to plant is in September or October, or in March. Choice kinds would be better wintered in a cold frame and planted out in March. In April top-dress the bed with a layer of well rotted manure, and in dry weather give an occasional good watering. Plants may be allowed to grow into very large clumps, and they will often flower most profusely thus, but i is a good plan to rear a few young plants annually from pipings to make sure of getting really fine flowers. Pipings are strong shoots 3in. or so long, cut off close to a joint in July, with the lower leaves removed for an inch or so and the tips of the leaves cut off. A bed should be prepared in shady spot by adding an inch or so of finely-sifted sandy soil and a thin dusting of salt. In this insert the cuttings firmly 3in. apart, and then cover with a frame or handlight. Shad from sun and see the soil does not get too dry. Early in September the cuttings will be rooted and ready to plant is their permanent positions.

Carnations are also well-known garden plants, the numerous varieties of which have been derived from D. caryophyllus, naturalised species on old walls in England. The varieties grown are classified into several groups: the Bizarres, having their flowers striped with two or three colours on a clear ground; the Flakes, with flowers of a groundwork of white and flaked with another colour; Selfs, with flowers of on uniform colour; Fancies, flowers with markings of coloured or white grounds; and Yellow-grounds, with flower having a surface colour of yellow or orange, flaked or mixed with other colours. Then there are French carnations, note worthy for their strong habit of growth, large and show flowers; German carnations, of which the yellow self Germanics and example; Marguerite carnations, the result of a cross between a Carnation and an Indian Pink, a race easily reare

from seed, and the flowers of which are useful for cutting; and "Jacks," a vigorous type of Carnation largely grown by market gardeners from seed, but which produce a large proportion of single flowers of no value. For general garden culture the Selfs, Fancies, and Yellow-grounds are the best. The Flakes and Bizarres are more suitable for exhibition purposes. The French, German and Marguerite types may be grown for yielding flowers for cutting. It would take up too much space to give lists of varieties. Besides, new sorts are constantly being introduced and older ones dropping out of cultivation. All we shall do is to name one well-known variety of each group or class to guide the reader as to the identity of the various groups. Uriah Pike, clove-scented, is a typical Self: Countess of Paris a good example of the French group; Germania of the German section; Achilles of the Fancies; and Miss Audrey Campbell of the Yellow-grounds. Readers who want the names of other varieties should consult up-todate lists, and for fuller details as to the properties of each group, Mr. H. W. Weguelin's book, "Carnations, Picotees and Pinks."* Regarding the cultivation of Carnations it is essential for choice kinds that they should be grown in good loam, deeply dug and liberally enriched with well-decayed manure, leaf-mould, grit or sea-sand, and sifted old mortar rubbish. It is also advisable to have the surface of the bed raised 4 in. above the ordinary level. For ordinary border culture ordinary soil will do, provided it contains a fair amount of rotten manure. Still, Carnations pay for special treatment, and if any of the above ingredients can be added to the soil so much the better. A sunny position is a sine quâ non. Planting is best done in October or March. The plants should be 18in, apart, and be planted as deep as the first pair of leaves only. Each plant should have a stake 3ft. high and the flower stems tied to this. In dry weather give a good watering now and then, also dustings of soot in showery weather. As the blooms fade pick them off, and towards the end of July see to layering the best shoots. These will be rooted by the first week in October, when they may be severed and replaced in the borders; or, if choice, potted in three-inch pots, placed in a cold frame till March, then planted out. To guard against an attack of wireworm fork in a month before planting a pound of Strawson's Vaporite to every eight square yards. In the case of plants attacked by the Carnation Rust or Leaf Spot, spray the plants with sulphide of potassium and water, using one ounce to 10 gallons of water. Badly infected plants should be burnt. Carnations are easily reared

^{* &}quot;Carnations, Picotees and Pinks." Price 2s. od., post free. Published by W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.

from seed sown in gentle heat in March, or in a cold frame in April. The former is the best plan to adopt for rearing the Marguerite Carnation and the latter for the Selfs, Fancies etc. The Marguerite seedlings will flower in July or August Those that do not bloom till later can be lifted, potted and placed in a greenhouse to flower in autumn. The other Carnation seedlings will not flower till the following year. In the case of all seedlings pull up and destroy those with single flowers, retaining only those that bear double ones. Carnations may also be increased by pipings as advised for Pinks but layering is a better method.

Picotees are merely a distinct type of Carnation, with groundwork of one colour, white or yellow, edged with rose red or purple. They are very dainty flowers and come in most useful for cutting. Those with a yellow ground are the prettiest. They require the same culture as Carnations, which

see.

Sweet Williams are varieties of D. barbatus, and have been grown in English gardens for ages. There are several strains such as the Auricula-eyed, with flowers of a red or other ric colour, and with a clear white eye; grandiflorus, a large flowered strain; nigricans, foliage a dark purple and flower dark red; and a double-flowered strain, flore pleno. Some too, have self-coloured and others spotted flowers. All are excellent border flowers, thriving in any good, ordinar soil. They are best treated as biennials—i.e., raised from seeds sown outdoors in April, transplanting the seedlings whe large enough to handle, 3 to 4in. apart in a nursery bed, and finally planting in borders in September to flower the following year. Choice kinds may be increased by cuttings in a colframe in autumn.

Chinese or Indian Pinks are very showy garden flower There are numerous varieties in cultivation which have orig nated from D. chinensis, a Chinese biennial species. The plants grow from 6 to 12in. high, and bear single or doub flowers with notched petals. Although biennials they ma be treated as annuals, i.e., reared from seed sown on a hot-beor in a heated greenhouse in February, the seedlings being afterwards transplanted into boxes, grown in gentle heat to May, then hardened off and planted out a foot apart in Jun Treated thus they will flower the same season. If sown ou doors the plants cannot be relied upon to flower the san season. Seeds may be sown in a cold frame in August September, and the seedlings grown therein till April or Ma then planted out. These Pinks require a sunny position ar a well-drained, rich soil. The chief varieties are Heddewig diadematus, double, various colours; Crimson Belle, singl erimson lake; Eastern Queen, single, lilac marbled; albus white, double; Fireball, double, scarlet; laciniatus, single, various colours, flowers large, petals deeply cut; laciniatus dore pleno, double; Salmon Queen, single, salmon; Nanus sanguineus, crimson, double, dwarf; Nanus albus, white, louble, dwarf. A mixed packet of seed of D. chinensis or D.

Heddewigii will give a wonderful variety of colours.

Perpetual-flowering Pinks are a comparatively new race obtained by intercrossing various species. They are noteworthy for their free-growing and flowering properties, blossoming from early summer right up to November. They have stiff, erect, branching stems, and the calvees do not split. For border culture, and for yielding flowers for cutting, these Pinks are unsurpassed. Their culture is quite a simple matter. Sandy loam, well enriched with old manure, is the most suitable soil. In the case of heavy, retentive soil, which is naturally cold in spring, deep digging, or what is better still. renching should be practised, and road-side refuse, wood ashes, decayed vegetable matter spread on the surface and ightly forked in. Frequent stirring of the surface soil will lo much good, and should a spell of dry weather set in while he flower stalks are throwing up, a mulching of half-decayed norse manure and wood ashes will do much to feed the plants. Plenty of moisture at the roots while in a growing state, and constantly stirred surface soil, are necessary. Propagation nay be carried out in various ways. The most ready method s that of pulling the plants in pieces in July and August after hey have done flowering, and dibbling these pieces firmly in n rows ten inches apart and four inches in the rows, choosing showerv weather for the work. By the end of the following March the plants will be well-rooted stocky stuff quite fit o plant out where they are to remain a couple of seasons. Another method of propagation where larger numbers are equired is to slip off all available pipings or cuttings from June onwards, inserting them in a cold frame in sandy soil. seeping the frame closed and shaded for a time until roots are ormed. When new growth is perceptible give air gradually o induce a stocky habit. When the plants are well furnished with roots put them out into nursery beds in well worked soil o remain there for a season, or be planted where to flower nt once. The following is a selection of choice varieties: Princess Christian, white with deep crimson markings, the calyx especially firm; height, 15in.; habit sturdy, with dark green "grass." Ernest Ladhams has blooms of great size, especially fragrant, and of a lovely soft pink colour, with a compact, yet robust habit of growth. Marion has foliage of a ich dark glaucous colour, extra stiff flower stems, carrying as

many as a dozen huge blossoms on a single spike; colour, deep rose-pink and deliciously fragrant. Mrs. Moreland is a deep pink, heavily marked in the centre with chocolate, clove-scented, and a continuous bloomer. Florence is a pure white with a conspicuous bright red eye, of robust habit. Bridesmaid varies in colour, sometimes delicate pink, other times nearly white, very sturdy, and floriferous. Charles is a flesh pink, carmine centre; Evelyn a white ground with pink lacing; and Southampton is compact in growth, producing freely large

pink blossoms which have a crimson-maroon blotch.

Mule or Hybrid Pinks are very interesting border and rock plants. They have green foliage, a tufted habit of growth, and neat single or double flowers. The principal kinds grown in gardens are: Atkinsonii, blood-red or crimson; Lady Dixon, a cross between a Sweet William and a Clove Carnation, reddish-crimson, fragrant; Napoleon III., an old free-flowering and pretty kind; Greiveii, a cross between a Sweet William and a Laced Pink, rosy pink; Superbus, crimson, fragrant. These Pinks do best in sandy loam on a sunny rockery, or on a well-raised border. They are impatient of damp. A little river sand and leaf-mould should be added to the soil. Plant in spring. Increased by division in autumn, also by cuttings in sandy soil in a cold frame in July and

Alpine Pinks are numerous. They only grow a few inches high, and require to be grown on old walls or rockeries. D. alpinus is a native of Austria, grows 3 to 4in. high, and bears large, rosy flowers spotted with crimson in summer. Requires a sunny position and a sandy soil, mixed with small stones and old mortar. D. arenarius, native of N. Europe, spreading habit; flowers white, spotted purple, summer, fragrant; sandy soil on a sunny rockery. D. cæsius (Cheddar Pink) is a native of Britain and Europe. It grows about 6in., and bears delicate rose and very fragrant flowers in June and July. Will grow freely in sandy soil on the margins of well-drained borders or on sunny rockeries. A charming species. deltoides (Maiden Pink) is a native species of tufted habit; flowers rosy-carmine with purple spots, borne in summer. Grow in sandy soil on the margins of dryish borders or on sunny rockeries; of easy cultivation. D. neglectus is a charming Alpine Pink, growing 2 to 3in. high, with grassy foliage, and bright rose flowers borne in summer. Should be grown in sandy loam on a sunny rockery. A native of the Pyrenees. D. superbus (Fringed Pink), a native of Europe, is a fragrant rose-coloured species, growing a foot high, and flowering freely in summer. It does well in sandy soil on warm borders or rockeries. Best treated as a biennial, rearing plants from seed in the same way as advised for the Chinese Pinks. The alpine species are best planted in spring. Increased by seeds sown in spring, and division of the roots in March.

Diapensia.—D. lapponica, the only species worth growing is a dwarf evergreen herb, growing 1 to 2in. high, and bearing pure white flowers half-an-inch wide in July. It is a native of the Arctic regions. The plant requires to be grown in peaty soil on a sunny rockery. Must be kept well watered in dry weather. Plant in spring. Increased by division in March. Belongs to the Nat. Ord. Diapensiaceæ.

Dicentra (Bleeding Heart; Lyre Flower).—Hardy herbaceous perennials, belonging to the Fumitory order (Fumariaceæ). D. spectabilis, better known as Dielytra spectabilis, is a showy Japanese species, with a fleshy root-stock and elegantly-cut leaves. It also bears pretty lyre-shaped, rosy flowers on graceful racemes in summer; height 18in. to 2ft.; a handsome plant to grow in a warm, shady border in rich soil. D. canadensis (Syn. D. eximia) is a species with fern-like foliage and reddish-purple blossoms borne on graceful, drooping racemes in summer. A native of N. America, and growing 12 to 18in, high. Also a good plant for a shady border or woodland garden or rockery. D. chrysantha is a tall-growing Californian species, with glaucous foliage and vellow blossoms borne in late summer; height, 3 to 4ft.; requires a warm, sheltered spot. D. formosa is much like D. canadensis in habit, but only grows 6in. high, and bears red flowers in May. A good plant for massing in a shady or woodland border, or for a rockery; ordinary rich soil; a native of N. America. Planting may be done in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring, and by division of the root-stocks in October or March.

Only one species of this genus of hardy herbaceous perennials is grown, and that is D. albus, a native of S. Europe, and a member of the Rue order (Rutaceæ). It is an old garden plant, with Ash-like foliage and white flowers borne in racemes in summer. D. albus purpureus, purple, better known as D Fraxinella, is the most generally grown kind. Both kinds do well in sandy loam or ordinary, deep well-drained soils. They are not suited for heavy damp soils. Will succeed in a sunny or a shady mixed border. They grow very slowly, and hence take many years to make good bold plants, but whether small or large they are very handsome and interesting border plants. Plant in autumn or spring. Increased by seeds sown in light

soil in a cold frame in autumn or spring. Seedlings do not flower for several years. Also by cuttings of the fleshy roots in March. The plants emit a strong resinous odour which is capable of ignition at night; hence its name, Burning Bush.

Digitalis (Foxglove) .- The Common Foxglove (D. purpurea) is a well-known wild plant. It belongs to the Nat. Ord. Scrophulariaceæ, and is a biennial. The common kind is only grown in wild gardens and woodland borders as a rule. There are, however, some very pretty strains which deserve a place in the mixed shrubbery or ordinary borders. For instance, alba is a pretty, white variety; campanulata, a dwarf variety, growing 18in, high, and bearing a large bloom at the summit of the spike; gigantea, a giant strain with large flowers; gloxinioides, with gloxinia-like flowers, which are prettily spotted. Of the latter there are three special kinds: alba, white, spotted with purple; rosea, rose, spotted with purple; purpurea, purple spotted. The colours of a good mixed strain range through every shade of cream, rose, white, red, and purple. Seed may be sown outdoors in spring, the seedlings transplanted 6in. apart as soon as large enough to handle, and finally planted out in September in their flowering quarters. The seedlings flower the second year after being raised from seed. In the shrubbery or wild garden the seed may be scattered over the surface and raked in. Once the plants get established seedlings from self-sown seed will be plentiful, and these can be transplanted in showery weather. Foxgloves do well in shady, partially shady, or sunny positions. They show to best advantage when grouped or massed together. The only perennial species worthy of note is D. ambigua (Syn. D. grandiflora). This grows 2 to 3ft. high, and bears yellow flowers in summer. This will succeed in ordinary soil in sun or shade. Increased by seeds.

Dimorphotheca (Cape Marigold).—Hardy annuals, natives of the Cape, and members of the Daisy family (Compositæ). Pretty and showy plants to grow on a sunny border. D. pluvialis has white marigold-like flowers with a purplishviolet exterior, and grows 18in. to 2ft. high. A variety of the latter named Pongei has double or semi-double flowers. Easily reared from seeds sown in patches or masses where the plants are required to grow. Sow in March or April. Thin out the seedlings early to six or more inches apart.

Dipsacus (Teasel).—The Teasels are hardy biennials, with bold, prickly foliage and conical flower-heads. They belong to the Scabious order (Dipsaceæ), and are of too coarse

a habit to grow anywhere except in wild parts of the garden. Easily reared from seed scattered about in spring where the plants are required to grow.

Dodecatheon (American Cowslip).-Pretty and interesting dwarf perennials, natives of N. America, and members of the Primrose order (Primulaceæ). The nodding, cyclamenlike flowers are borne in umbels on slender stalks in spring and early summer. D. Media is the best known species. grows upwards of ift. high, and bears rosy-purple, white, or lilac flowers in April. There are several varieties, as album, white; giganteum, blush, white and rose, very pretty; and lilacinum, lilac. Other species are: D. Hendersoni, crimson and yellow, March, 6in.; D. integrifolium, rosy-crimson, white and yellow, June; D. Jeffreyii, purple-rose, 2ft.; and D. Clevlandii, violet-blue, 2ft. The Dodecatheons thrive best in a light, loamy soil with which plenty of leaf-mould has been incorporated. As regards position, a sunny or a partially shady rockery, or a shady border, or the margins of woodland paths, anywhere not too hot and dry, will suit these plants well. Dodecatheons also do well on the margins of bog beds in which Kalmias, Heaths, etc., are growing. February or March. An annual top-dressing of decayed manure in February will be beneficial. Increased by seeds sown when ripe in sandy loam and leaf-mould in a cold frame, also by division in February.

Doronicum (Leopard's Bane).—Hardy herbaceous perennials, belonging to the Daisy order (Compositæ). They are showy spring and early summer flowering plants, and well worthy of culture in small or large gardens, and their yellow, marguerite-like flowers, moreover, being borne on long stems, are well suited for cutting. The principal kinds grown are: D. plantagineum excelsum (Harper Crewe variety), 3 to 5ft.; D. caucasicum, 1ft.; D. austriacum, 11ft.; and D. Pardialanches, 2 to 3ft. D. caucasicum is the earliest to flower. The foregoing will succeed in ordinary soil in sun or shade, and may be grown in the mixed border or massed in woodland borders and the wild gardens. Increased by division in autumn or spring; also by seeds sown in sandy soil in a cold frame in spring. Large plants should be lifted, divided and replanted every two or three years. Plant in autumn or spring.

Downingia.—A genus of hardy annuals, included in seed lists under the generic name of Clintonia. Natives of California, and members of the Campanula order (Campanulaceæ). Two species are grown, namely, D. elegans, blue and

white, 6in., summer; and D. pulchella, bright blue with a yellow eye, summer, 6in. There are three pretty varieties of the latter, viz., alba, white; rubra, red; and atropurpurea, purple. The foregoing are charming kinds for edging a bed or border, or for growing in masses on the margins thereof. Sow the seeds thinly in March or April where required to grow, and thin out the seedlings later on to 6in. apart.

Draba (Whitlow Grass).—Dwarf compact-growing alpine plants, suitable for growing on old walls or on dry, sunny rockeries where they are not liable to be overgrown by taller They belong to the Wallflower order (Cruciferæ). The leaves grow in rosette form on the stems, and the plants have a charming effect when in flower. The chief species are: D. aizoides, flowers yellow, borne in March, height 2 to 3in.; native C. Europe and South Wales. D. gigas is a whiteflowered species, and grows 3in. high; D. grandiflora has white flowers borne in March, and grows 3in high; D. pyrenaica, grows 2 to 3in. high, and bears lilac-purple scented flowers in April and May. There are many others, but the above are the best. They will grow in ordinary soil, should be planted in spring, and may be easily increased by seeds sown where required to grow, in April; or by division of the roots in October.

Dracocephalum (Dragon's Head).—Hardy perennials, belonging to the Sage order (Labiatæ). D. austriacum bears blue flowers in whorled spikes in summer, grows 12 to 18in. high, and makes a pretty border plant. D. grandiflorum is a Siberian species, growing 6 to oin, high, and bearing blue flowers in oblong spikes in summer. An excellent plant for a sunny rockery. D. Ruyschiana comes from the Pyrenees, grows 1 to 11ft. high, and bears handsome spikes of purpleblue, fragrant flowers in summer. A variety of it, japonicum, bears violet-blue flowers, and is very pretty. A good border plant. D. speciosum is an Indian species, with lilac flowers, which requires to be grown on a sunny rockery. All do well in good, light, sandy loam or well-drained, ordinary soil. A sunny position is desirable. Plant in autumn or spring. Increased by seeds sown in sandy soil in gentle heat, or in a cold frame in March; also by cuttings of the young shoots in a cold frame in summer; and division of the roots in March.

Dryas (Mountain Avens).—D. octopetala is a native evergreen alpine plant, which only grows an inch or so high, and bears white anemone-like flowers in summer. D. Drummondii is an American species of trailing habit, and bearing

yellow flowers in summer. Both are adapted for growing on sunny rockeries, and will thrive in ordinary soil. quickly spread over stones, and when in flower are decidedly showy and interesting plants. Plant in autumn or spring. Easily increased by division of the plants in October or March

Echinocactus.—This is a genus of Cactaceous plants, one species of which, E. Simpsoni, a native of Colorado, is hardy. It has a globular-shaped stem furnished with white spines and bears purple blossoms in March. It should be planted in a gravelly soil in a sunny rockery, and be protected during the winter from rains-its great enemy-by a handlight.

Echinops (Globe Thistle).—Handsome hardy perennials, with pinnately-cut foliage and round, bristly flower-heads. Well-grown plants produce a fine effect in the borders when in flower. They belong to the Daisy order (Compositæ). Ritro is a handsome species, growing 3ft. or so high, and bearing blue flowers in summer, which are most useful for cutting. E. bannaticus (Syn. E. ruthenicus) has downy stems and finely-toothed, leathery leaves with spiny segments; height, 3ft.; flowers deep blue, summer. E. sphærocephalus has finely cut, silvery foliage and pale blue flower heads. Giganteus is a variety of the latter with large flower heads, and albidus has white heads. These plants will succeed in ordinary, deep soil in sun or shade, and may be massed in the wild garden or grown in shrubbery borders. Plant in autumn or spring. Increased by seeds sown in gentle heat in spring, also by division of the roots in autumn or spring.

Echium (Viper's Bugloss).—Hardy annuals or biennials, belonging to the Forget-me-not order (Boraginaceæ). These plants are well suited for growing in hot, dry, gravelly or chalky soils. E. creticum bears red flowers in long racemes: E. plantagineum grows 3ft. high, and bears dark blue flowers: E. vulgare, the native Viper's Bugloss, has red and blue flowers. All flower in summer and grow 2 to 3ft. high. Sow seeds where required to grow in September, to produce plants for early flowering next season; or in March for flowering later in the year.

Eomecon (Cyclamen Poppy).—The only species of this genus belongs to the Poppy order (Papaveraceæ). E. chionanthat is a hardy perennial, a native of China, grows Ift. high, and bears white flowers with orange stamens in summer. It has creeping roots and cyclamen-like, yellowish-green leaves.

This showy plant succeeds best in deep, free, sandy loam and leaf-mould, and in a sunny position on a rockery or in a border. It likes plenty of moisture in summer. Plant in spring. Increased by division of the underground creeping stems in March or April.

Epilobium (Willow Herb).—Hardy perennials, members of the Evening Primrose order (Onagraceæ). Willow Herb or Rose Bay (E. angustifolium) is a native species, with Willow-like foliage and crimson flowers borne in spikes in summer. This is a very showy species. There is also a white variety, album. Other species are E. hirsutum (Codlins and Cream), pale pink or white, July, 4ft., Britain; E. luteum, pale yellow, July, 6ft., N. America; E. obcordatum, rosy-purple, summer, 6 to gin., California; and E. rosmarinifolium, red, July, 2ft., Europe. E. angustifolium is a fine plant for naturalising in the wild garden, or for growing in partially shady borders in town gardens. E. hirsutum is more suitable for the margins of ponds. E luteum requires a warm border, and the other species do best in moist soil on a rockery. Plant in autumn. Easily increased by division of the roots in autumn or spring, also by seeds sown outdoors in April. Ordinary soil.

Epimedium (Barrenwort).—Dwarf-growing hardy herbaceous perennials, with ornamental foliage of a bronzy or rose tint, and belonging to the Barberry family (Berberidaceæ). The most interesting species are E. alpinum, a native of Central Europe; flowers yellow with greyish and crimson sepals borne in racemes in spring; height 6ft. E. macranthum, a Japanese species, grows 12 to 15in. high, and bears white flowers in There is a violet-flowered variety of this named violacea. E. pinnatum, a native of Asia Minor, is one of the best species for general culture. It grows 12 to 18in. high, and bears golden yellow flowers in long racemes in June. E. rubrum has bright crimson and yellow flowers, and grows a foot high. E. lilacinum (lilac) and E. luteum (yellow) are also pretty kinds. All will succeed in good, ordinary soil or peat and loam on half shady rockeries, or in masses in margins of borders. Plant in autumn or early spring. Increased by division of the roots in March; also by seeds in sandy peat in cold frames in spring. The prettily marked foliage is most useful for cutting.

Erigeron (Fleabane).—The Erigerons are hardy herbaceous perennials, belonging to the Daisy order (Compositæ). All the species named below are showy summer-flowering rock or border plants, and easily grown in ordinary good soil in

sunny or half shady positions. The best kinds are: E. aurantiacus (Orange Daisy), yellow, 6in., suitable for rockery or margins of borders; E. speciosus superba, lilac-purple, orange centre, 3ft., a good border plant and flowers useful for cutting; C. Coulteri, white with golden centre, 18in., borders; E. glabellus, lilac, 18in., borders; E. macranthus, violet-purple, 18in., borders; E. philadelphicus, rosy-pink, 1ft., margins of borders; E. Roylei, blue, 6in., rockeries; E. Villarsii, soft lilac, 1ft., borders. Mostly N. American species. Plant in autumn or spring. The tall kinds require to be supported by stakes, otherwise their shoots will sprawl about. Increased by division of the roots in autumn or spring; also by seeds sown in sandy soil in cold frames in autumn or spring.

Erinus.—E. alpinus is a dwarf perennial of tufted growth, which bears violet-purple flowers in spring and summer, and belongs to the Foxglove order (Scrophulariaceæ). The white variety (albus) and the red one (carmineus) are both very pretty. A native of the Alps. The species and its varieties should be grown on old walls or on sunny rockeries. Sow seeds in the chinks of the walls or among the rocks on the rockery in April, then nice tufted plants will be obtained in due course. Once established the plants will freely reproduce themselves from seed. May also be increased by division of the roots in autumn.

Eriogonum.—Hardy perennial herbs, belonging to the Buckwheat family (Polygonaceæ). The only species worthy of culture is E. umbellatum. This is of tufted growth, and bears pretty yellow flowers in dense umbels on stems 6in. high. The variety Sileri is said to be an improved form of this species. A native of California. Both should be grown in sandy loam on a sunny rockery. Plant in spring. Increased by seeds sown in sandy soil in a cold frame in spring; also by division of the roots at the same time.

Eritrichium (Fairy Forget-me not).—E. nanum, the only species we shall describe in this work, is a dwarf, tufted alpine plant, growing 2 to 3in. high, and bearing azure or skybluc flowers in summer. It resembles somewhat a dwarf Myo sotis, and belongs to the Forget-me-not order (Boraginaceæ). It is not a very easy plant to grow on account of its cottony foliage being susceptible to injury from damp in winter. Plant in fibrous loam and peat, mixed with small pieces of sandstone, and put a few pieces of the latter round the plant to keep its foliage off the soil. March is a good time to plant. Increased by seeds sown in sandy peat in a cold frame in spring, or division in March.

to the Geranium order (Geraniaceæ), and in many respects is similar to the hardy geraniums. E. Manescavi (Heron's Bill) is a native of the Pyrences, grows 1 to 2ft. high, bears large rosy-crimson flowers in trusses in summer. E. macradenum (Black-eyed Heron's Bill) has parsley-like foliage and blush flowers, veined with purple, borne in summer; height 6in. E. petræum is a Pyrenean species, growing 3 to 6in. high, and bears rose or white flowers. E. chamædryoides (Syn. E. Reichardi) is another dwarf species from Majorca, with white or pink flowers. E. Manescavi will grow in any soil in sunny borders, but the others require to be grown on sunny rockeries in sandy soil. Plant in autumn or spring. Increased by seeds sown in sandy soil in cold frames in spring, also by division of the roots in October or March.

Eryngium (Sea Holly).—Hardy perennials, with handsome spiny, holly-like foliage and flower heads surrounded by spiny bracts. They belong to the Parsley order (Umbelliferæ). The great beauty of the plants belonging to this genus lies in the metallic blue or silvery tints of their stems and bracts. On this account the plants not only form beautiful objects in the garden, but their flower-heads are also equally beautiful and quaint subjects for cutting for indoor decoration. They will succeed in ordinary soil in well-drained sunny borders, and may be planted in autumn or spring. Increased by division of the roots in autumn, also by seeds sown in sandy soil in a cold frame in autumn or spring. The most noteworthy kinds are: E. alpinum (Alpine Sea Holly), with lavender-blue flower-heads and metallic blue stems and bracts; height, 2 to 3ft.; native of Alps. E. Bourgati, with stems, flowers and bracts of a steely-blue tint; height, 2ft.; Pyrenees. E. giganteum (Ivory Thistle), foliage and stems a glistening silvery white; flowers, blue; bracts, blue-green; height, 3 to 4ft.; Caucasus. E. maritimum (Sea Holly), foliage, etc., silvery-grey; flowers, bluish-white; height, 1 to 2ft.; Britain. E. oliverianum, stems and flower-heads steely blue; height, 3ft. Superbum is a variety with bracts of a more intense blue tint. E. planum has small thistle-like, ball-shaped flowers, and is very elegant; height, 1 to 2ft.; E. Europe. E. corniculatum (Syn. tripartitum) has finely cut greyish foliage, steelyblue flowers and large bracts; height, 3ft. E. amethystinum has amethyst-purple flowers, violet-purple stems; height, I to 2ft.; Dalmatia. There are two pretty hybrids: Hybridum, bracts and flowers rich blue; and Zabelii, glistening blue stems and bracts.



he small lawn, too, has been utilised porders round have with shrubs and the margins with summer bedefing. been prettily clothed with creepers. all available space. for a few simple beds of gay summer flowers.



JAPANESE WINDFLOWER (ANEMONE JAPONICA).

A splendid hardy perennial to grow in shady borders. See p. 94 for description and culture.

Erysimum.-Hardy annual, biennial and perennial plants, belonging to the Wallflower order (Cruciferæ), E. perofskianum is an annual species from the Caucasus. grows ift, high, and bears orange-red flowers in profusion in summer. Sow seeds in patches in the borders in September or in April. Will grow in any soil. Thin out the seedlings early to get good plants. E. alpinum, sulphur-yellow, fragrant, May, 6in.; E. ochroleucum, yellow, fragrant, April to July, Sin.; E. pumilum, vellow, fragrant, summer, 3in.; E. pulchellum, yellow, fragrant, spring, 1ft.; and E. rhæticum, yellow, summer, 6in., are the chief perennial species. These will succeed in ordinary soil in sunny borders or on rockeries. They are best grown in bold masses. Readily reared from seeds sown outdoors in April, afterwards transplanting the seedlings to their flowering positions. Also increased by division in autumn.

Erythræa (Centaury).—Pretty dwarf annual and perennial plants, belonging to the Gentian order (Gentianaceæ). The native Centaury (E. Centaurium) which grows so freely on dry limestone banks, is an annual bearing pretty rose flowers in summer. Scatter seeds about on dry banks, etc., in April. E. Massoni (Syn. E. diffusa) is a European perennial species, growing 3in. high, and bearing rose flowers. Grow in sandy soil on a sunny rockery. E. Muhlenbergi is a Californian species with rich pink and white-eyed flowers. It grows 8in. high, and is suitable for the margin of a sunny border or a rockery. Grow in sandy loam. Increased by seeds sown outdoors in April, or division of the plants in March.

chiefly belonging to the Poppy family (Papaveraceæ), and natives of N.W. America. The only two species worth growing are E. californica, orange, 1ft.; and E. Douglasii, pale gold with orange centre, 1ft. E. crocea is a saffron-coloured variety of E. californica. There are numerous varieties grown in gardens under the names of Rose Cardinal, Rose Queen, Buttercup, Mandarin, etc. The latter are very showy plants for sunny borders or for beds. Sow seeds in September to Aower early the next season, and in April to flower in summer. They will grow in any soil. Thin the seedlings out to 6 or Sin. apart when an inch or so high.

Eucharidium.—Californian annuals, belonging to the Evening Primrose order (Onagraceæ). There are two species, and these are E. Breweri, with lilac-purple and white flowers, and growing only 9in. high; and E. concinnum, rose, 9 to 12in. high. There is a white variety named album, and a rosy-

purple one called grandiflorum. All are hardy. Sow seeds outdoors in sunny borders in September to flower in early summer, and in April to flower later. Thin the seedlings out to 3 or 4in. apart to allow the plants plenty of room.

perennials, belonging to the Daisy order (Compositæ). The only species we can advise to be grown in small gardens is E. ageratoides, a native of N. America. This grows 3ft. high and forms a neat bush, laden in summer with large corymbs of pure white flowers. It is a very showy plant for a sunny border. E. purpureum also comes from N. America, grows 3ft. high, and bears purple flowers in autumn. Both should be grown in good, ordinary soil to ensure good results. Plant in autumn or spring. Increased by seeds sown outdoors in April, or earlier in heat, and planted out in summer; also by division of the roots in October or March.

Euphorbia (Spurge).—Hardy perennials, with elegant foliage and yellow flowers, belonging to the Spurge order (Euphorbiaceæ). There are several species, but the only ones worth growing are: E. Cyparissias (Cypress Spurge), with finely cut foliage, yellow flowers and bracts, and growing I to 2ft. high; E. Myrsinites, a first-rate species, with blue-grey foliage, yellow flowers, and growing only a few inches high; and E. pilosa major, a handsome species, with bright golden bracts in summer, and which change to a bronzy tint in autumn. E. Wulfeni has blue-grey flowers and reddish-brown flowers, grows 3 ft. high, and is a very pretty border plant. E. Cyparissias is a suitable plant for massing on sunny banks or in borders, and the others also make good border or rockery plants. Ordinary soil. Plant in autumn or spring. Increased by seeds sown outdoors in April, also by division of the roots in autumn.

Ferula (Giant Fennel).—Handsome and noble growing perennials, with finely divided Fennel-like leaves. They belong to the Parsley family (Umbelliferæ), and are more suited for the wild garden and large shrubberies than the choice border. F. communis, a native of the Mediterranean district, grows 8 to 10ft. high, and has elegantly cut, needle-like foliage and small, unattractive yellow flowers borne in umbels in June. F. glauca neapolitana has glaucous foliage, and grows 8 to 10ft. high. F. tingitana is a native of N. Africa, and an elegant and vigorous species, height 6 to 8ft. The young foliage in spring is very graceful and pleasing. Grow in a deep, rich soil and plant in autumn. Increased by seeds sown when ripe, or in spring outdoors; also by division of the roots in autumn or spring.

Fragaria (Indian Strawberry).—F. indica, the only species to be mentioned here, is a pretty trailing plant, bearing golden-yellow flowers and red berries. A suitable plant to grow on sunny rockeries where its shoots can trail about and show the flowers and fruit to advantage. Increased by runners removed and replanted in autumn or spring.

Francoa (Maiden's Wreath).—A genus of more or less hardy perennials, natives of Chili, and members of the Saxifrage order (Saxifragaceæ). Except in mild districts these plants cannot be relied upon to survive the winter outdoors. When planted out permanently a well-drained, sunny rockery is the best place for them. The soil should be moderately light and rich. Plant in March or April. In colder districts it is better to grow the plants in pots under glass and to plant them out in May, or to plunge them in their pots. They must be removed indoors in September. F. appendiculata, flowers pale red, borne in July; and F. ramosa, white, July and August, are the only two species worth growing. Height, I to 2ft. The flowers are borne on long branching stems and are useful for cutting. Increased by seeds sown in heat in early spring, also by division of the root-stocks in March.

Funkia (Plantain Lily).—Hardy herbaceous perennials, natives of Japan and belonging to the Lily order (Liliaceæ). Some have pretty flowers and others beautiful foliage. They do well in shady borders, on the margins of water, on rockeries, or as edgings to borders. The strong growing species look well grown in bold groups in the wild garden. A deep, rich, well-manured soil is essential to ensure fine foliage. Plant in autumn or spring. The principal species and varieties are: F. Fortunei, foliage bluish or glaucous, flowers lilac, June, height 18in.; F. lancifolia, leaves narrow and green, flowers lilac, Aug., height 8 to oin. Of this there are several varieties, namely: aureo-maculata, leaves variegated with green and golden vellow; marginata, leaves margined with white and flowers lilac; undulata, leaves green, flowers purple; undulata argente, leaves variegated with silver and green, flowers lilac: undulata unvittata, foliage dark green with silvery mid-rib. flowers purple. F. ovata has glaucous green foliage and bluish-white flowers, borne in May, height 12 to 18in. There are two varieties of this, aureo-variegata, leaves variegated with gold, silver and green; and marginata, leaves green, broadly margined, with white and purple flowers. F. sieboldiana has grevish foliage and soft lilac flowers, borne in summer, height 2 to 2½ft. The variety major has large, handsome leaves and fine spikes of lilac flowers. Major marmorata is another variety with blue-green foliage and lilac flowers;

and marmorata has smaller, deep blue, mottled foliage. F. subcordata grandiflora has snow-white, deliciously fragrant flowers and large glaucous leaves, a very handsome species, which requires to be grown in a sunny position in well-drained sandy loam. Increased by division of the roots in March.

Galax (Wand Plant; Carpenter's Leaf).—An interesting dwarf hardy perennial from N. America. G. aphylla, the only species grown, belongs to the Nat. Ord. Diapensiaceæ, grows 3 to 4in. high, has roundish leathery leaves of a bright red colour in summer, and white wand-like flowers borne in July. It makes a charming plant for growing in moist, peaty soil in cool nooks of a rockery or on the margins of beds planted with peat-loving shrubs. Plant in autumn or spring. Increased by the division of the plants in autumn or spring.

Galega (Goat's Rue).—Hardy herbaceous perennials, belonging to the Pea order (Leguminosæ), and natives of S. Europe and the Caucasus. G. officinalis is an old inhabitant of our gardens. It grows 3 to 5ft. high, and bears a profusion of pink or lilac blossoms in summer. G. officinalis alba is a white-flowered form. Compacta is a good variety with lilac flowers. Hartlandi is another good variety with large sprays of lilac flowers. Snowball is a splendid white variety, the flowers of which are valuable for cutting. G. orientalis is the only other species. This bears bluish-purple flowers, and grows 3 to 4ft. high. All have elegant pinnate foliage, and are handsome border plants. They will grow in any good soil well enriched with decayed manure, and should be planted in autumn or spring. A sunny position is essential. Easily increased by seeds sown outdoors in April, planting out the seedlings in autumn; also by division of the roots in autumn or spring.

Gaura.—The only species of this genus worth growing is G. Lindheimeri, a hardy perennial, growing 3 to 4ft. high, and bearing white or rosy flowers on long, slender, graceful spikes in summer and autumn. It belongs to the Evening Primrose order (Onagraceæ), and is a native of N. America. This plant is a very interesting and pretty one to grow in groups in sunny borders in good, ordinary soil. Plant in autumn or spring. Increased by seeds sown outdoors in April, planting the seedlings in their flowering positions in September; also by division in autumn or spring.

Gentiana (Gentian).—The Gentians are beautiful alpine perennials, the charm and beauty of which are probably seen to better advantage on their native mountain slopes than in gardens. They are by no means easy plants to grow, although once their cultural requirements have been fully grasped, few

plants yield such real delight and pleasure to the grower. The Gentians belong to their own special order, the Gentianaceæ. The most popular species, and the only ones we shall deal with here, are G. acaulis, flowers a brilliant deep blue, March to June. This species is the easiest of all to grow. It requires to be grown in moist loam, mixed with decayed cow manure, on a rockery or as edging to a border. G. Andrewsii. a native of N. America, grows 1 to 2ft, high, has blue flowers borne in August, is best grown in sandy soil on a sunny rockery. G. asclepiadea (Willow Gentian) is a South European species, growing 6 to 18in. high, and bearing purple-blue flowers in July. This species may be naturalised in grass or in woodland borders, or grown on a rockery facing north. Sandy loam. G. Cruciata (Crosswort) grows 1ft. high, has pale blue and green flowers borne in July, and is best grown on a shady rockery in sandy loam. G. luteus (Yellow Gentian) bears vellow flowers in whorls in July, and grows 3 to 4ft. high. Best grown in the wild garden or coarse, shady borders. G. pneumonanthe (Heath Gentian) is a native species, bearing deep blue flowers in August and growing oin, high. A grand species for naturalising in grass or massing in shady borders; sandy loam. G. septemfida (Crested Gentian) grows o to 12in. high, and bears blue flowers with white interiors on erect heads in July. Does well in sandy loam on a sunny rockery or border. G. verna is the most beautiful of all the Gentians. It only grows about 3in, high, and bears exquisite brilliant blue flowers in April and May. Grows wild in the northern parts of England as well as on the Alps. It must be grown in sandy loam, freely mixed with bits of limestone, on a sunny rockery, where its roots can get plenty of moisture in summer. The best time to plant gentians is in March. Once planted let the plants alone, merely top-dressing annually in early spring with welldecayed manure and leaf-mould. Increased by seeds sown in sandy soil in a cold, shady frame in spring. The seeds germinate very slowly indeed. Also by division of the plants in March.

Geranium (Crane's bill).—Hardy herbaceous perennials. belonging to the Nat. Ord. Geraniaceæ. The species named below are excellent plants for growing on rockeries or on the margins of sunny borders. Ordinary well-drained soil will suit them well. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring, also by division of the roots in autumn. The species worth growing are: G. armenum, purple-crimson, July, 2ft., Armenia; G. cinereum, pale red, July, 6in., Pyrenees; G. Endressi, rose, July, 1ft., Pyrenees; G. grandiflorum, violet-blue, July, 1ft.; G. ibericum, purple-blue, late summer, 1ft., Caucasus; G. macrohizum,

purple, May, 1ft., S. Europe; G. phæum, coppery-bronze, June, 18in., Europe; G. pratense, soft blue, summer, 2ft., Britain, a first-rate plant for naturalising in masses in the wild garden; G. pratense album, white, 3ft.; G. pratense flore pleno, double, blue, 2ft.; G. pratense roseum, rose, 2ft., three varieties equally adapted to be grown as advised for the parent species; G. sanguineum, a native species, crimson-purple, summer, 9in.; G. sanguineum album, white, summer, 9in.; G. sanguineum lancastriense, pink and rose, a dwarf trailer; and G. sylvaticum fl. pl., another native species, bearing double purple flowers, and growing 2ft. high.

Geum (Avens).—Showy and interesting hardy perennials, adapted for rockery or border cultivation in good, ordinary, well-drained soil. Members of the Rose order (Rosaceæ). The flowers are brilliantly coloured, and are most useful for cutting. The best kinds are: G. chiloense, scarlet and bronze, summer; height, 2 to 3ft. Grandiflorum is a variety with bright scarlet flowers; and there is also a double-flowered form which is still more beautiful. The foregoing are splendid border plants. G. Heldriechii is a lowly kind, bearing bright orange-red flowers, and growing 1ft. high. Its variety splendens bears larger flowers of a rich orange-scarlet, and is an exceedingly showy plant. G. miniatum, really a variety of G. chiloense, bears large single orange-scarlet flowers, and grows 2ft. high. G. montanum aurantiacum grows only 6in. high, and bears orange-yellow flowers. A variety named maximum bears much larger golden-yellow flowers, and grows 1ft, high. Orange Queen (terra-cotta), Yellow Queen (clear yellow), both growing 2ft. high, are very desirable forms to grow where brilliancy of colour and plenty of flowers are needed for cutting. We may add that the flowers last a long time in a cut state. Planting may be done in autumn or spring. The Geums are sun-loving plants, but they like plenty of moisture at the roots. Increased by seeds sown in the open border in April; also by division of the roots in autumn and spring.

Gilia.—Hardy annuals, belonging to the Phlox order (Polemoniaceæ), and extremely pretty flowering plants for borders or beds. The flowers, moreover, are most useful for cutting. The following are very pretty species: G. achilleæfolia major, cobalt blue, 1ft.; G. dianthoides, rosy-purple, 6in.; E. liniflora, white, 0in.; and G. tricolor, orange-yellow, purple and white, 1ft. Of the latter there are white, rose, etc., coloured varieties, all very pretty. Seeds may be sown in the open border in September to ensure plants for early summer blooming, and in April for late summer flowering. Sow thinly

and in masses to ensure the best effect. Ordinary soil and a sunny border will suit these annuals.

Gillenia (Indian Physic).—Hardy perennials, natives of N. America, and members of the Rose order (Rosaceæ). Two species are grown, viz., G. trifoliata (Indian Physic), a graceful spiræa-like plant, with dark red stems, and white or rosy flowers borne in June; and G. stipulacea, a species with deeply cut leaves and white flowers borne in June. Both grow about 2ft. high. These plants require to be grown in moist peat and loam in partial shade. Plant in autumn or spring. Increased by seeds sown in peaty soil in a cold frame in spring, or by division of the roots in spring.

Glaucium (Horned Poppy).—Hardy biennials, belonging to the Poppy order (Papaveraceæ), and suitable for border culture. G. corniculatum is a naturalised plant in Britain. It grows about 9in. high, and bears crimson flowers with a black spot on each petal. G. flavum (Syn. G. luteum) is also a native of Britain. This has handsome silvery or glaucous foliage and bears yellow flowers, height 1 to 2ft. Tricolor has scarlet flowers spotted with black and margined with yellow, height 1ft. G. Fischeri has reddish-orange flowers and grows 1ft. high. All will grow in ordinary soil in a sunny border. Sow the seeds in patches in April where the plants are required to flower, and thin out the seedlings to 6in. apart. The plants will not flower till the following year.

Globularia (Globe Daisy).—Hardy perennial or shrubby plants of dwarf growth, and suitable for rockery culture. G. alypum is a European species, growing 2ft. high, and bearing blue flowers in globular heads during August. G. cordifolia is a shrubby plant of trailing habit, growing 6in. high, and bearing blue flowers in July. Another species is G. trichosantha, a native of Asia Minor. This grows 6 to 8in. high, and also bears blue flowers in early summer. These plants require to be grown on sunny rockeries in sandy peat. May be planted in autumn or spring. Increased by division in September. Nat. Ord. Selaginaceæ.

Grindelia (Californian Gum Plant).—Hardy biennials, bearing yellow or orange flowers in summer, growing 1 to 2ft. high, and belonging to the Daisy family (Compositæ). Natives of Mexico and Texas. The species worth growing are G. cuncifolia, G. inuloides, and G. patens. The flowers are suitable for cutting. Sow the seeds in heat in March and plant out the seedlings in June in ordinary, light soil in a sunny position.

herbs with immense, leathery, wrinkled leaves, which are their chief attraction. Nat. Ord. Haloraginaceæ. They are grown chiefly on the margins of water in sheltered positions where bold foliage is necessary to produce a striking effect. The two species grown are G. manicata, with leaves 4 to 6ft. in diameter and 6ft. high; and G. chilensis (Syn. G. scabra), which has leaves nearly 7ft. in diameter and grows 7 to 9ft. high. The stems of the latter are prickly. Plant in spring in rich loam, remove the flower stems as they form, and in winter protect the crowns with a covering of the leaves. Increased by dividing the root-stocks in spring. Natives of Brazil and Chili.

Gypsophila (Chalk Plant).—A genus of hardy annuals and perennials, many species of which furnish a wealth of beautiful and graceful flowers for cutting in summer. Members of the Carnation family (Caryophyllaceæ). The annual species are G. elegans, flowers white tinged with pink, borne in graceful panicles in summer, and excellent for cutting; height There are two pretty varieties of it, namely, alba (white) and rosea (pale rose). G. muralis is the only other annual species. This is a dwarf neat grower, bearing pink blossoms, and suitable for edging a border or growing on the rockery. The perennial species worthy of culture include G. paniculata, which grows 2 to 3ft, high, and bears small white flowers in large feathery panicles in summer. The appearance of this plant when laden with flowers is like a snowy mist. The flowers are much prized for cutting. There is a doubleflowered form, flore plena, which is equally valuable for yielding flowers for cutting. G. prostrata is a pretty trailing species, bearing white flowers and suitable for rockery culture, height 6in. G. repens monstrosa, white, 1ft.; and G. repens rosea, rosy flowers, Sin., are two charming species for rockeries. G. Rokejeka has an elegant branching habit, and bears light, 10sy flowers in late summer which are valuable for cutting. G. Steveni grows 1 to 2ft. high and bears white flowers also useful for cutting. Sow seeds of the annual species in April where required to grow. Thin out the seedlings to a few inches apart. Ordinary soil and a sunny position. The perennial species like a well-drained, ordinary soil and a sunny position. It is an advantage to the plants to have plenty of old mortar freely mixed with the soil. G. paniculata should be planted 3ft. apart. Plant in autumn or division in spring, and cuttings at same time inserted in sandy soil in a cold frame.

Haberlea.—The only species grown is H. rhodopensis, and this is a dwarf rock perennial, belonging to the Gloxinia

order (Gesneraceæ). It is very similar in growth to Ramondia pyrenaica, grows 4 to 6in. high, and bears pale lilac, gloxinialike, drooping flowers in April and May. A charming plant to grow in an oblique position between clefts of stone on a rockery facing north, or on the north side of the surface of a bed of peat-loving shrubs, such as azaleas, kalmias, etc. Wherever the Ramondia thrives there also will the Haberlea succeed. Plant in March or April. Increased by seeds sown on the surface of sandy peat in well-drained pans or boxes in a cold, shady frame in spring; also by division of the plants in March

Hacquetia.—A curious little plant, better known under the generic name of Dondia. H. epipactis is a herbaceous perennial, growing 3 to 6in. high, and of similar habit to an Astrantia, having three-lobed leaves and yellow flowers borne in spring on an umbel. It requires to be grown in a loamy soil on a sunny rockery, or as an edging to or in a patch on the margin of a border. Plant in spring. Increased by division of the roots in March. A native of Carniola and a member of the Parsley order (Umbelliferæ).

Hedysarum (French Honeysuckle).—A genus of Peaflowered perennials, belonging to the Nat. Ord. Leguminosæ. The best known species is H. coronarium, a native of S. Europe, growing 3 to 4ft. high, and bearing dense spikes or racemes of crimson flowers in summer. Album is a variety with white flowers. H. multijugum is a shrubby species, growing 3 to 4ft. high, and bearing panicles of bright crimson flowers in summer. A native of S. Mongolia. H. Mackenzi is a N. American species growing 2 to 3ft, high, and bearing rosy-purple flowers; and H. microcalyx, a half-shrubby species from the Himalayas growing 3 to 4ft. high and bearing purple flowers. All the species have pinnate foliage. These plants will grow in ordinary garden soil in sunny borders. Plant in autumn or spring. The flowers are well adapted for cutting. Increased by seeds sown outdoors in April. The shrubby species may also be propagated by cuttings of young shoots in sandy soil in a cold frame in spring.

Helenium (Sneeze-weed).—A genus of N. American hardy perennials, belonging to the Daisy order (Compositæ). The following are showy border plants, and the flowers are also of value for cutting: H. autumnale grows 3 to 5ft. high, and bears pale yellow flowers in September and October; there are several varieties of it. Cupreum has crimson flowers shot with gold; Defiance, deep yellow flowers; grandiflorum, large yellow flowers; striatum, flowers of a deep

orange, striped with crimson; and superbum, yellow flowers borne in branching heads. H. Bigelovii grows 4ft. high, and has yellow flowers with a brown disc borne in August. H. Bolanderi grows 2 to 3ft. high, and has yellow flowers with a dark disc. H. Hoopesii has brilliant orange flowers borne in early summer, and grows 2½ft. high. H. pumilum grows 1 to 2ft. high, and bears large golden-yellow flowers in summer, which are greatly valued for cutting. Magnificus is a slightly taller variety, with soft, pale yellow flowers. All the foregoing will succeed in ordinary garden soil in sunny borders. H. pumilum is the best variety for small gardens. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring; also by division of the roots in October or March.

Helianthus (Sunflower) .-- Hardy annuals and perennials, natives of America, and members of the Daisy order (Compositæ). H. annuus is the common annual sunflower. There are several superior varieties of it, the best being citrinus, pale yellow, 5ft.; nanus, deep yellow, 3ft.; globosus pistulosus, double, 5ft.; nanus plenus, double, 4ft.; and Russian Giant, 8ft. The perennial species and their varieties are numerous. H. decapetalus grows 4 to 6ft. high, and has sulphur-yellow, single flowers 2 to 3in. in diameter. Nanus is a dwarf form, growing 4ft. high. Other varieties are: H. G. Moon, golden-yellow, very free blooming, 4ft.; Miss Mellish, bright orange-yellow, duplex flowers, very useful for cutting, 5ft. H. doronocoides grows 4ft. high, and bears small, vellow. flowers which are most useful for cutting. H. laetiflorus bears rich, golden-yellow flowers very freely in September and October, and grows 7ft. high. H. mollis has greyish-green foliage and large, golden-vellow flowers borne from July to October; height 3 to 5ft. H. multiflorus grows 5ft. high, and bears large, golden-vellow flowers in August and September. The following are good varieties of this species: Maximus, very large deep yellow flowers, Sept. and Oct., 6ft.; plenus, double rich orange flowers, Aug., 5ft.; Pearl, double golden yellow flowers, 5ft.; Queen Victoria, anemone flowered, goldenyellow, 4ft., Aug.; Soleil d'Or, ray petals developed in centre of flower, golden-yellow, Aug. and Sept., 4ft., most useful for cutting. H. orgyalis, a graceful species with narrow leaves, golden-yellow flowers, borne in October; height 7ft.; a good species for naturalising. H. rigidus, a species with rough foliage and purplish stems; flowers yellow with a purplish centre, borne in September; height 5ft. The following are varieties of it: Diana, small rich yellow flowers, July and Aug., 4ft.; grandiflorus, flowers rich golden-yellow, crimsonbrown centre, July and Aug., 4ft.; semi-plenus, orange-yellow,

semi-double, Sept. and Oct., 4ft.; Rev. Wolley Dod, small yellow flowers, Oct., 6ft. In connection with the annual species we should have mentioned H. argophyllus, a species with silky foliage and small yellow flowers, 5ft.; H. cucumeri folius, small vellow flowers with dark centre, useful for cutting, 3ft.; and its varieties. Diadem, pale lemon, dark disc; and Excelsior, deep vellow, twisted petals, pretty for cutting. The annual species may be raised from seed sown in the open garden in April, or in slight heat in March, and planted out in May. The tall Russian Giant kind makes a good temporary screen, and the rest may be grown in groups in the wild garden. For large borders where there is plenty of space few plants will yield a braver display of colour in autumn than these plants. Plant in autumn or spring. Any ordinary soil and sunny position will suit them. The plants should be lifted, divided and replanted every two or three years, otherwise they will soon overrun the borders. Increased by seeds sown, also by division of the roots in autumn or spring.

Helipterum.—A genus of half-hardy annuals, belonging to the Daisy order (Compositæ). Three species are cultivated, and all are natives of Australia. They bear scaly or chaffy flowers, which possess the property of drying and maintaining their natural shape, and thus becoming valuable for cutting and preserving for winter decoration. H. humboldtianum (Syn. H. Sandfordi) grows 18in., and bears bright vellow flowers, which assume a greenish tint when dry. H. Manglesi (Syn. Rhodanthe Manglesi) grows 16 to 18in, high, and bears rosy-pink flowers with yellow centres. H. roseum (Syn. Acroclineum roseum) grows 18in, high, and bears rosy flowers. Album is a white, and grandiflorum a large rose variety of the latter. For preserving, gather the flowers when just fully expanded, tie them in small bunches and hang them head downwards in a cool, dry shed for a week or so. Seeds should be sown in heat in March, the seedlings transplanted into pots or boxes, hardened off and planted out late in May. May also be sown in the open border in April. Grow in masses in a sunny border in good ordinary soil.

Helleborus (Christmas Rose; Lenten Rose).—Hardy perennials, belonging to the Crowfoot order (Ranunculaceæ), and highly prized for their value for flowering in winter. The Hellebores are divided into two sections, one the Christmas Rose, which flowers from Christmas onwards, and the other the Lenten Rose, which blossoms from January to April. H. niger (Christmas Rose) is the best known species. This bears white flowers from December to March. Angustifolium is a narrow-leaved form of it, and two other notable varieties are

luvernis, large fine white flowers; and Madame Fourcade and major, both white and very free blooming. The Lenten Roses are more numerous, and embrace the following species and varieties: H. abschasicus, purplish; H. a. albus, white; H. atrorubens, deep purple; H. caucasicus, pale green; H. c. punctatus, reddish-purple, spotted with dark purple; H. c. nigricans, bluish-black; H. colchicus, deep purple; H. odorus, green, fragrant; H. o. purpurascens, purplish-red, dwarf; H. orientalis, rosy-red. In addition to the foregoing species a number of pretty hybrids have been obtained, the best of which are: Apotheker Bogreen, purple, spotted; Beethoven, rose; Gertrude Jekyll, pure white; Harlequin, blush, green and maroon; Irene, soft pink; Sylvia, rose. The Christmas Rose requires a deep, rich, loamy soil containing plenty of leafmould and rotten manure. If good flowers are wanted form a special bed on the north side of a hedge or wall, arranging the plants so that they can be easily covered by a frame or handlight to protect the bloom in winter. For ordinary garden purposes grow in clumps in a sheltered, shady border. May also be grown in woodland borders. Top-dress the soil annually with decayed manure, and see the roots have plenty of water in dry weather. The Lenten Roses require a similar soil and position. Shelter from cold winds and shade from sun are the main requirements. Plant in autumn or spring. Once planted and doing well, do not interfere with the roots. They are impatient of disturbance at the roots, and refuse to flower the first season or so after disturbance. When it is necessary to lift established plants, do it at the end of July. Increased by division of the roots directly after flowering also by seeds sown in cold frames in spring, but the latter is a slow, uncertain business.

Helonias (Stud Flower).—The only species of this genus is a N. American perennial, belonging to the Lily order (Liliaceæ). H. bullata grows 12 to 18in. high, and bears purplish-rose flowers in dense cylindrical racemes in May and June. There is a variety of its called latifolia with broader leaves. It is a very handsome plant for the bog garden or margin of a pond or stream. Plant in autumn or spring in loam, peat and leaf-mould. Increase by division of the roots in March.

Hemerocallis (Day Lily).—Hardy perennials of considerable beauty, belonging to the Lily order (Liliaceæ). They are not only of graceful habit of growth, having long, narrow, arching leaves, but their rich yellow or orange flowers are also very showy as well as fragrant. These plants do well in partially shaded borders of deep, rich, moist soil, or in groups

fringing a pond or stream. The species in cultivation are: H. aurantiaca major, a Japanese kind, with lovely apricottinted flowers measuring 6in. across, and growing 21st. high; H. Dumortierii, also a native of Japan, growing 12 to 18in. high, and bearing orange and brown flowers: H. flava, a native of Siberia and Japan, grows 2 to 3ft, high, has narrow leaves and fragrant orange-vellow flowers, and is very pretty; H. flava major has flowers of a clear vellow colour, which are very fragrant; H. fulva, grows 2 to 4ft. high, has long, broad leaves and coppery, orange and crimson-tinted flowers; H. fulva disticha, yellow flowers suffused with red; H. fulva Kwanso, double orange-vellow flowers; H. fulva flore pleno, double orange and crimson flowers; H. Middendorffii, pale golden-vellow flowers; H. minor (Svn. H. graminea) is a dwarf species, growing 6 to 8in, high, with grassy foliage and yellow and green-tinted fragrant flowers; H. Thunbergii is similar to flava, and has pale vellow flowers. There are several pretty hybrids in cultivation, as: Apricot, apricot-tinted; Buttercup, yellow; Gold Dust, golden-yellow; Sovereign, chrome-vellow and brown. The dwarf kinds like minor and Dumortierii may be grown on a shady moist rockery; the others in company with ferns and shade-loving plants, or, as previously noted, by the water-side. A deep, rich soil and plenty of moisture are desirable. Plant in autumn or early spring. The plants flower in early summer and the flowers are specially suitable for cutting, the buds opening well in water. Day lilies are just the plants for small gardens; provided they have moisture and shade they will grow and flower freely. Increased by seeds sown in sandy soil in a cold frame in spring; also by division of the roots in autumn.

Heracleum (Giant Parsnip).—A genus of strong-growing perennials, remarkable for their noble leafage and inflorescence. They belong to the Carrot order (Umbelliferæ). H. giganteum or villosum is popularly known as the Cartwheel Flower. It grows 8 to 10ft. high and nearly as far through, has immense leaves, and bears a huge head of white flowers. H. mantegazzianum is another species with handsome foliage and pure white flowers. These plants are only suitable for naturalising singly or in groups on the turf or in large borders in wood gardens. Readily increased by seeds sown in the open garden in spring.

Herniaria (Rupture-wort).—A native dwarf perennial evergreen herb, belonging to the Nat. Ord. Illecebraceæ. H. glabra used to be much used as a carpet bedding plant on account of its neat and compact deep green foliage. It is also used as a carpeting for dry spots on rockeries containing choice

bulbs. Will thrive in any soil. H. glabra aurea has goldentinted foliage. Increased by division in autumn or spring, planting the divisions close together if the earth requires to be quickly covered.

Hesperis (Rocket; Dame's Violet; Night-scented Stock). -Showy old garden flowers, belonging to the Wallflower order (Cruciferæ). H. matronalis (Dame's Violet or Rocket) bears white or lilac fragrant flowers, and grows 1 to 2ft. high. Will grow on old walls or in dry sunny borders; very sweet in the evening. There is, however, a double white and purple form of this species which are infinitely prettier than the latter. These bear flowers similar to those of the Double Stock, and possessing a delightful fragrance. The single forms are raised from seed sown in the open ground, and the doubles from cuttings of side-shoots inserted in a shady border in summer. The cuttings soon root, and may then be planted in the borders in good rich soil. A fresh lot of plants should be reared thus annually to make sure of getting strong plants and fine spikes of flowers. H. violacea has violet-purple flowers, and is a hardy biennial. Really, however, the Double Rockets are the only ones worth growing in small gardens. The Nightscented Stock used to be included in this genus, but is now known as Matthiola tristis, which see.

Heuchera (Alum Root).—The Heucheras are elegant hardy perennials, natives of America, and members of the Rockfoil order (Saxifragaceæ). Most of the species have slender graceful flower spikes furnished with small tubular, drooping blossoms which are valuable for cutting for indoor decoration. The principal species are: H. americana, red, 18in.; H. brizoides, a hybrid, with pink flowers and growing 2ft. high; Heuchera brizoides gracillima, another hybrid, with rosycrimson flowers; H. erubescens, white and red, 2ft.; H. micrantha, creamy white, 2ft.; H. micrantha rosea, rose, 2ft.; H. sanguinea, coral-scarlet, 18in.; H. s. alba, white; H. s. grandiflora, crimson-scarlet; H. s. rosea, rose; H. s. splendens, vivid coral-scarlet; and H. Zabeliana, a hybrid, with pink flowers, 21ft. All flower in summer and have a tufted habit of growth. H. hispida macrophylla (Satin Leaf) has its leaves handsomely marked with a rich brown colour. This is grown for its foliage only, therefore should have its flowers removed. The Heucheras may be grown on sunny rockeries, or in groups in the front of sunny borders. Ordinary garden soil, not too heavy or too light, will suit. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring, also by division of the roots in October or March.



A SHOWY HARDY PERENNIAL (ACHILLEA PTARMICA FLORE PLENO).

A good type of plant to grew for yielding flowers for cutting. See p. 86.



THE GLOBE THISTLE (ECHINOPS SPHÆROCEPHALUS GIGANTEA).

See p. 135 for description and culture.

Hieracium (Hawkweed).—Hardy perennials, belonging to the Daisy order (Compositæ). H. aurantiacum, orange, 12 to 18in.; and H. villosum, with downy leaves and golden-yellow flowers, height 6in., are the only two kinds worth growing. Even these are suitable for sunny banks, dry borders, or rockeries. They are not particular as to soil. Plant in autumn and increase by division of the plant in spring.

Hippocrepis (Horse-shoe Vetch).—H. comosa is a British and European herb, with trailing stems, pinnate leaves and yellow flowers borne in umbels in early summer. It belongs to the Pea order (Leguminosæ). A pretty dwarf and rapid-growing plant to grow on a sunny rockery or on the margin of a border. Will succeed in ordinary soil, and may be planted in spring or autumn. Increased by seeds sown outdoors in April, or division of the roots in autumn.

Houstonia (Bluets).—Dwarf evergreen perennials, not exceeding 3in. high, natives of America, and belonging to the Woodruff order (Rubiaceæ). They are charming little plants for a shady rockery. H. cœrulea bears pretty blue flowers freely from spring to autumn; and H. cœrulea alba has white flowers. Grow in moist sandy loam or peat in partial shade. Plant in spring. Increased by division of the roots in October.

Hunnemannia.—A very graceful and pretty hardy perennial is H. fumariæfolia, a native of California, and a member of the Poppy order (Papaveraceæ). The plant grows about 2ft. high, and has finely cut foliage and yellow, cupshaped flowers borne in late summer. Although a perennial, it is best treated as a half hardy annual, sowing the seeds in heat in March, hardening the seedlings off in May, and planting them out in a warm border in June.

Hutchinsia.—H. alpina is a dwarf perennial, growing zin. high, and bearing small white flowers in spring. A pretty little carpeting plant for dry rockeries or the margins of borders. A native of Central Europe, and a member of the Wallflower order (Cruciferæ). It does best in sandy soil and should be planted in spring. Increased by seeds sown where required to grow in April; also by division of the roots in autumn or spring.

belonging to the Wallflower order (Cruciferæ). The perennial species are evergreen and more or less shrubby in habit. The best of the latter are: I. correæfolia (a hybrid), white, ift.; I. c. Little Gem, white, dwarf and compact; I. c. Perfection, white, gin.; I. gibraltarica, white, sometimes tinged with red,

I to 2 ft., native of Gibraltar; I. g. hybrida, white to rose, very compact; I. Pruiti, white, 6in.; I. saxatilis, white, 3 to 6in., native of S. Europe; I. semperflorens, white, fragrant, 18in., native of Italy; I. sempervirens, white, borne in long racemes, 12in., native of S. Europe; I. s. garrexiana, large white flower, compact habit; I. s. Snow Queen, pure white, gin.; and I. s. superba, large pure white. The foregoing flower in May, June and July, and are suitable for sunny rockeries or margins of borders. Ordinary soil. Plant in autumn or spring. Very pretty and desirable plants to grow in large or small gardens. Increased by cuttings of shoots inserted in sandy soil in a cold frame in July or August, also by layering the shoots in summer and severing them the following spring. The annual species include the Common Candytuft (I. umbellata), pale purple or lilac, 1ft., native of S. Europe, and its varieties, atropurpurea, dark crimson; nana carminea, carmine, gin.; Rose Cardinal, bright rose; hybrida nana, white to purple; hybrida alba, white; hybrida carnea, flesh; and hybrida rosea, rose, height oin. Other annual species are: I. coronaria (Rocket Candytuft), white, borne in long spikes, a very pretty kind, growing ift. high; I. c. Giant Snowflake, white; and I. odorata, white, fragrant, oin. The foregoing are suitable for massing in beds, in groups in, or as edgings to borders. Sow the seeds thinly in April where required to grow, and when the seedlings are a few inches high thin them out to 4 or 6in, apart.

of hardy perennials is I. Delavayi, a plant with tuberous roots, elegantly cut foliage, and lovely rosy-carmine, trumpetshaped flowers borne in racemes in May and June. The plant grows about 2ft. high, is a native of China, and belongs to the Bignonia family (Bignoniaceæ). An exceedingly handsome plant for a well-drained sunny and choice perennial border. I. Olgæ is another species from Turkestan, growing 3 to 4ft. high, and bearing purple flowers, well suited for large borders or naturalising in the wild garden. Both species are deserving of culture, the former especially. They require a deep, rich loamy, well-drained soil and a sunny position. Plant in March. In severe winters protect the crowns with bracken, litter, or a layer of ashes. Increased by seeds sown in gentle heat in March, planting out the seedlings in June; also by division of the roots in March.

Inula (Elecampane).—Hardy herbaceous perennials, belonging to the Daisy order. They are all yellow or orange flowered, and some of them yield useful flowers for cutting. They are, moreover, showy border plants. The best species

are I. glandulosa, a native of the Caucasus, growing 2ft. high, and bearing orange-yellow flowers in July and August; I. grandiflora, from the Himalayas, growing 2ft. high, and bearing orange-yellow flowers in July; I. Helenium, a native species, height 3ft., flowers orange-yellow; I. Hookeri, native of Sikkim, height 2ft., flowers yellow and scented; I. Oculus-Christi, native of E. Europe, height 2ft., flowers pale yellow; all flowering in summer. I. glandulosa is the best of the lot for border culture; the others are more suitable for the wild garden. Plant in autumn or spring in good ordinary soil in sunny positions. Increased by seeds sown outdoors in April, or by division of the roots in October or March.

lonopsidium (Violet Cress).—A very pretty hardy annual of miniature growth, rarely exceeding 2in. in height, and bearing dainty white flowers tinged with violet in summer. I. acaule is the only species, and this belongs to the Wallflower order (Cruciferæ). It is a native of Portugal. An easy plant to grow on a rockery or margin of a summer border. May also be grown as a carpeting beneath taller plants on the rockery. Scatter the seed thinly over the soil in April and lightly rake in. Two or three successive sowings may be made.

containing many species of diverse habits of growth. All belong to the Nat. Ord. Iridaceæ. Irises are grouped in various sections as the Tall-bearded, Dwarf-bearded, Beardless, Japanese, and Bulbous-rooted. The Tall-bearded section are divided into several classes, as the Germanica, Amæna, neglecta, pallida, plicata or aphylla, squalens, and variegata.

Commencing with the Tall-bearded section, we have here a race of very beautiful plants, with flag or sword-like leaves and creeping rhizomes, of which the Common Flag Iris is a good example. The flowers, moreover, are very handsome, being prettily mottled with various colours. The lower or drooping petals are bearded or crested at the base. They are all very hardy and free flowering, and do well in small or large gardens in good ordinary soil not over moist. A sunny or partially shady position is best for them. They are also splendid plants for naturalising in woodland and wild gardens, or by the sides of streams and ponds. They should be planted early in October or in March, and the rhizomes kept near the surface. It is advisable to lift and replant in fresh soil every three or four years. As a guide to the reader in procuring varieties representative of the various classes previously mentioned, we will name half-a-dozen varieties of each. Germanica class: Common Blue Flag, alba, Kochii, Fontarabic,

macrantha, and Purple King. Amœna class: Calypso, Donna Maria, Mrs. G. Darwin, Poiteau, reticulata alba, and Victorine. Neglecta Class: Amabilis, Cottage Maid, Marian, Nationale, Fairy Queen, and Virginie. Pallida class: Albert Victor, delicata, Garibaldi, Leonidas, pallida, and rubella. Plicata or Aphylla class: Aphylla, delicatissima, Madame Chereau, Agnes, Sappho, and Swertii. Squalens class: Britannia, Bronze Beauty, Jean Sisley, Mons. Chereau, Phidas, and venesta. Variegata class: Adonis, aurea, Darius, Ganymede, Gracchus, and Orphée. The foregoing flower in May and June.

Then we have the Dwarf-bearded irises, which are dainty subjects for rockeries or massing in front of borders. They grow less than a foot high, and flower from March to May. Good ordinary soil and a sunny position will suffice to grow these well. A few of the best kinds are: Chamæiris, C. alba, aurea, C. maculata, italica, lutea, grandiflora, gracilis, nudicaulis, albiensis grandiflora, and pumila cœrula. A good hardy plant list, such as that issued by Messrs. Barr and Sons, Long Ditton, will give the colours; the details are too

lengthy to be given in the space at our command.

We now come to the Beardless section of Irises. These have no crests or beard to their bottom petals. They are exceedingly beautiful, very hardy, and desirable plants to grow in gardens of all sizes. Some of the kinds in this section succeed best in moist soils near the margins of ponds or streams; others in dryish borders or on rockeries. We will deal with each class separately. Those that thrive best in moist positions are I. versicolor, I. v. Fosteri, I. v. Hansoni, I. v. Kermesina, I. pseudo-acorus, and I. p. folius variegata. The soil for these will be all the better if mixed with peat and leaf-mould. These flower in June. Those that do best in ordinary soil in borders or on rockeries are: I. cristata, height 4in.; blue and orange, May; I. aurea, height 4ft., yellow, June and July; I. graminea, ift., blue and purple, June and July; I. missouriensis, blue and yellow, 2ft., May and June; I. monspur, 4ft., violet-blue, May; I. orientalis, white and yellow, 4ft., June and July; I. siberica, blue, 3ft., May and June; I. supria, lilac-blue, 3ft., July; I. unguicularis (Syn. I. stylosa), lavender-blue, 1ft., November to March; I. u. alba, white; I. u. lilacina, lilac; I. u. marginata, blue and silver. We may here add that there are a number of beautiful varieties of I. siberica, the names of which can be ascertained from a trade list. I. unguicularis is one of the most beautiful of hardy irises, and has very sweet flowers. It requires to be grown at the base of a greenhouse or other wall facing south in a well-drained border, and where, if necessary, its lovely flowers can be

protected from injury by rain or frost. The flowers, if cut in the bud state, will open well in water indoors. Plant if

possible in September or early October.

The Japanese Iris is an exceedingly handsome flower, indiridual blooms measuring 6 to 8in. across, and the petals are also very large. The blooms are clematis-like in shape and orne during July and August. They require special culture to do them well. They do best in beds of good loamy soil on he margin of a pond, where they can get plenty of moisture n summer and comparatively little in winter. Beds may be easily formed to comply with these conditions. Failing a pond make a bed in the garden, puddling the bottom with clay if the soil is porous, and putting a foot of good loam on this. The top of the bed should be six inches below the ordinary level. This bed may be kept moist in summer by giving ample supplies of water. Some people grow these rises well by sinking half a cask with its bottom out in he garden, puddling the bottom with clay, and adding a foot or so of loam. Water is supplied as advised for the bed. In vinter give a liberal dose of liquid cow manure once a month. Planting is best done in October or March. Named varieties, with flowers of all shades of lovely colours may be had. They are all varieties of I. lævigata (Syn. I. Kæmpferi).

Lastly, we have a section of pretty irises called Cushion rises. They are a delicate race to cultivate, and few succeed a growing them really well. They have creeping rhizomes, harrow foliage, and usually bear their flowers, which are exceedingly beautiful, singly. The plants must be grown in well-drained, elevated bed of sandy soil, be planted in June, and protected from summer rains by a frame in order that the rhizomes may ripen. In winter their young growth must be protected by a covering of fern litter. The chief kinds are:

atropurpurea, black and purple; I. Gatesii, creamy white and yellow; I. Lortetii, lilac, brown and crimson; I. susiana,

revish-blue and brown. They flower in spring.

Finally comes the question of propagation. Irises may be eared from seed sown in sandy soil in a cold frame in spring; by offsets after the foliage has died; and by division of the hizomes in autumn or early spring. The bulbous Irises are

lealt with in the section devoted to Bulbs.

Isopyrum.—I. thalictroides, the only species grown, is hardy perennial, with maidenhair-like foliage, which is very seful for cutting for mixing with cut flowers. It grows a cot or so high, is a native of Europe, and bears white flowers a spring. The plant belongs to the Buttercup order (Ranunulaceæ). It may be grown in good ordinary soil on a sunny tockery or in a border, and should be planted in autumn or

spring. Increased by seeds sown outdoors in April, or division of the roots in autumn or spring.

Jasione (Sheep's Scabious).—Two species of this genus are sometimes grown in gardens, viz., J. montana, a native annual growing 12 to 18in. high and bearing lilac-blue flowers in summer; and J. perennis, a perennial species from W. Europe, growing 12 to 18in. high and bearing blue flowers in summer. They belong to the Harebell order (Campanulaceæ). Both will succeed in good ordinary soil, in sunny borders, or on a rockery. Sow seeds of the annual species where required to grow in April. The perennial species may be planted in autumn or spring. The latter is best reared from seed; it does not increase readily any other way.

Jeffersonia (Twin-leaf).—J. binata (Syn. J. diphylla) is a very pretty dwarf herbaceous perennial, growing 6in. high and bearing solitary white flowers in early spring. It is a native of the United States and belongs to the Barberry order (Berberidaceæ). This interesting little plant should be grown in peat and leaf-mould in a moist and shady nook of the rockery, or on the margin of a bed of peat-loving shrubs. Plant in October or March. Increased by division of the root-stocks in September; also by seeds sown in sandy peat in a cold frame.

Kniphofia (Torch Lily; Flame Flower; Red-hot Poker). -A genus of hardy perennials, formerly known under the generic name of Tritoma. A member of the Lily order (Liliaceæ). The species named below have long, narrow, grassy leaves and scarlet or yellow flowers borne on dense An exceedingly handsome and showy genus of hardy Besides the species and varièties there are also several very pretty hybrids. The best known species are: K. aloides (Syn. K. uvaria), 3 to 4ft.; flowers coral-red to orange; Sept. and Oct.; one of the showiest species. There are several good forms of it, namely, glaucescens, orange-red; grandiflora, scarlet and yellow; præcox, flowering in May; Saundersi, orange-scarlet; and serotina, flowering in October. K. Burchellii has a purple spotted stem and scarlet and yellow flowers tipped with green; flowers in summer. K. carnosa is a dwarf species, growing a foot high, and bearing apricot coloured flowers with yellow anthers in September. K. caulescens has reddish-salmon flowers, borne in dense heads on stems 4 to 5ft. high in June or July. K. carnosa grows 1 to 2ft. high, and bears yellow flowers with long protruding stamens in August. Splendens is a variety of it, with orange-red flowers. K. foliosa grows 2 to 3ft. high, and bears yellow or yellowishred flowers in dense spikes a foot long in August. K. Leitchnii is a somewhat tender species bearing vermilion, red and ellow flowers on stems 4ft, high in August. Distachya is a ariety bearing several heads of flowers on the same stem. . Macowanii is a dwarf species, bearing orange-red flowers on tems 12 to 18in, high in August; a fine rockery plant. K. Northiæ grows 4ft, high, and bears pale yellow flowers tinged with red on the upper segments, in June and July. K. pumila s a dwarf species, with orange-red flowers borne on scapes Sin. long in August. K. Rooperi is a tender species, bearing range-red flowers in dense racemes on stems 2ft. high in ulv. K. sarmentosa has creeping, underground stems, and range-red flowers on the upper half and yellow on the lower part of the spikes. The hybrids are numerous. The best are Corallina, scarlet and orange-red; Atropos, rich red; Lemon Ducen, lemon-yellow; Pfitzeri, orange-scarlet; and Cloto, armine-scarlet. Others will be found in the various trade ists. The foregoing are natives of S. Africa and Abyssinia. Eniphofias are noble plants for planting singly on lawns, grouping in masses in the wild garden, or growing in the nixed hardy plant borders. A good bold tuft of K. aloides, caulescens, or any of the hybrids look well near the margin of a pond or stream, as they like a fair amount of moisture. K. Burchellii is, however, an exception, this preferring a dry bank or a well-drained, sunny border. Few plants are more showy in the garden in late summer and autumn, the stately pikes of brilliant flowers then displaying their rich warm colours to good advantage. Any well-drained, good, ordinary soil will suit the plants. Plant in early autumn or in spring, and give an annual mulching of well-rotted manure in winter. n hot weather water freely, and when the flower spikes form apply occasional doses of weak liquid manure. In winter protect the base of the plants with bracken or dried tree-leaves. Increased by seeds sown outdoors in April; by suckers; also ov division of the plants in autumn or early spring.

Lamium (Dead Nettle).—A genus of rather weedy plants, two of which only are worth growing in gardens. These are L. maculatum aureum, with golden foliage, and L. maculatum argenteum, with silvery foliage. These two are worthy of a place in moist borders where little else will thrive. They will grow in any good ordinary soil, are best planted in autumn, and easily increased by division of the roots in autumn or spring. Nat. Ord. Labiatæ (Sage family).

Lasthenia.—L. glabrata (Syn. L. californica), the only species grown, is a hardy annual, belonging to the Daisy order (Compositæ), and a native of California. It grows 12 to 18in, high, bears orange-yellow flowers on downy stalks in summer. A showy annual to grow in bold masses in a

sunny border. Sow the seeds thinly in September to produce plants for flowering in May, or in April for summer blooming. Thin the seedlings out to 3 or 6in. apart when an inch or so high.

Lathyrus (Sweet Pea).—In the Sweet Pea (L. odoratus) we have one of the most beautiful and charming of hardy garden flowers. There are indeed few gardens in which of late years it is not grown. It appeals to the owner of a back garden, an allotment, villa, or the more princely style of gardens, as a really beautiful flower to grow to decorate borders and to yield a plethora of lovely blossoms for cutting for the embellishment of the dwelling-rooms. It not only possesses the merits of a great range of lovely tints in its blossoms, but delicious fragrance also, and so it is, and no doubt will continue to be for a very long time, one of the most popular garden flowers in cultivation. Another good point in its favour, it is easy to grow. It seems equally at home clothing a bare fence in a back garden, growing in stately groups in the borders of large gardens, or in the orthodox row to yield flowers for cutting. While it will endure a rough and ready code of treatment, it is one of those popular

flowers that will well repay for generous treatment.

If to be grown in groups, and this is the most effective way for border culture, dig out holes 2ft. wide and the same in depth. If the natural soil is a good loam, fork up the subsoil, add six inches of rotten manure, then fill the remainder of the hole to within two inches of the top with two parts of soil and one of rotten manure. Next add a handful each of superphosphate and kainit, and fork this in. Should the soil be sandy, use rotten cow manure for the bottom of the hole, and fill the hole with equal parts of loam, ordinary soil and cow manure, adding artificials also as in the previous case. If a heavy clay, fork up the subsoil and mix road grit and horse manure with it; put six inches of decayed manure in the bottom, and then fill the remaining space with two parts of loam and one of manure, with the addition of the artificials. The holes should be three or more feet apart. If to be grown in rows dig out trenches 18in. to 2ft. wide and 2ft. deep, and prepare the soil as advised for the holes. In this case the quantity of artificials advised to every lineal yard of trench. The sites should, if possible, be prepared thus in autumn and winter, so that the soil may get sweet and well settled. This provides a good pabulum for the roots as well as a generous diet for sustenance in summer. previously mentioned, Sweet Peas may be grown in a more rough and ready way, but the results are not satisfactory.

The next question is sowing the seeds. Some make a practice

of sowing in autumn in pots in cold frames, and planting out in spring, or in the open ground at the same time, with the view of getting early flowers. We find little advantage to be gained thereby. Others sow in heat in February, harden off in March, and plant out later; others, again, in cold frames in March to plant out late in April; and the majority in the open ground in March. If the spring happens to be a mild one, those sown in heat will do all right; but if it happens to be cold and frosty, then the plants receive a severe check. We favour the plan of sowing some in cold frames and some in the open ground in March. In both cases these do well. If the frame method be adopted, get some three-inch pots, put a crock in each and a little moss over it, then fill to within an inch of the top with good light soil. Plant five seeds in each, three-quarters of an inch deep. place in the frame, keep close and shaded till the seedlings appear, then expose to light, give plenty of air and sufficient water to keep the soil moist. When three inches or so high, expose fully to the air, and then plant in the holes or trenches. Or the plants may be transferred to six-inch pots, grown in the frame till the end of April, and then planted out. In planting, press the soil down firmly, and if the weather should be dry give a good watering. In the case of seeds sown outdoors plant eight or more seeds at even distances apart in each hole, and about three inches apart if sown in trenches. The seeds should be sown about an inch deep. As soon as the seedlings are well up in the holes, reduce the number to five so as to give the plants plenty of room. When three inches high place small feathery sticks to support the plants, and later add those of the usual full length. Keep the sticks in the holes well apart to allow sun and air to get to the plants. From time to time tie out the branches to prevent crowding. As soon as the flower-beds form water the soil occasionally with a solution of sulphate of ammonia and water, half-an-ounce to a gallon. Give three gallons to each clump or every lineal yard of row. Never apply this when the soil is dry. If dry, give a good dose of water first. Gather the fully expanded flowers early every morning, and every now and then remove all the bloom to give the plants a rest. Never allow seed pods to form. When the plants reach the top of the sticks, nip off their main points; this will encourage laterals to form. The soil should be frequently stirred with prong or hoe to aerate it and keep down weeds.

Other annual peas which may be grown in the open under similar conditions are: L. azureus, blue, 2ft.; and L. tingitanus (Tangier Pea), reddish-purple. We omitted to mention that Sweet Peas should be grown in an open sunny position

away from the shade or roots of trees.

The following are twenty-five of the best Sweet Peas. Of course new varieties are constantly being introduced, but the following are up-to-date sorts: Aurora, white, striped orange-salmon; Black Michael, reddish-maroon; Blanche Burpee, pure white; Countess Cadogan, reddish-mauve and violet; Countess Spencer, pink; Dainty, white, pink edge; Dora Breadmore, buff, tinged pink; E. J. Castle, salmon; Evelyn Breadmore, white and pink; Gladys Deal, light blue; Hon. Mrs. Kenyon, primrose; Jeannie Gordon, carmine and creamy buff; King Edward VII., crimson; Lady Grizel Hamilton, pale lavender; Lady Marie Currie, orange-pink and lilac; Lord Kenyon, rose; Mars, scarlet; Miss Willmott, orange-pink; Mrs. Alfred Watkins, pink; Mrs. Walter Wright, mauve; Prima Donna, soft pink; Sadie Burpee, white; Scarlet Gem, bright scarlet; Princess Beatrice, rosy pink; Lottie Eckford, rose, white and blue; and Lovely, pink and rose. Cupid, white and pink varieties, are dwarf kinds, growing 5in. high, and suitable for rockeries or margins of borders. Raise in a cold frame in March and plant out in April. See also the section devoted to Hardy Climbers.

Lavatera (Tree Mallow).—A genus of hardy shrubby perennials and annuals, belonging to the Mallow order (Malvaceæ). L. arborea, although of a shrubby habit, is best treated as a biennial, plants being reared from seed to flower the following year. This species is a native of our sea-coasts. It grows 6 to 10ft. high and bears purple flowers in summer. There is a variegated variety of it, variegata, with leaves marbled with yellow, white and green, which is pretty for sub-tropical bedding. L. trimestris is an annual species, growing 4 to 6ft. high, and bearing rosy flowers blotched with purple at the base. Alba is a white variety of it. Seeds of both species may be sown in heat in March and the seedlings planted out in May; or in the open border in April. The variegated kind requires protection in winter.

Layia.—A genus of bright and pretty hardy Californian annuals, belonging to the Daisy order (Compositæ). L. elegans is a very graceful species, bearing yellow flowers margined with white in summer; it grows 1ft. high. Another pretty species is L. glandulosa, growing 18in. high and with white florets and a yellow disc. Two other species are also worthy of note, namely, L. calliglossa (Syn. Oxyura chrysanthemoides), yellow, 12 to 18in. high; and L. platyglossa (Syn. Callichroa platyglossa), yellow, 6 to 12in. high. These charming annuals may be grown in ordinary soil in a sunny border, sowing the seeds therein in April, and well thinning

the seedlings out later on. Or seeds may be sown in heat in March, the seedlings hardened off and planted out in May.

Leontopodium (Edelweiss).—The Edelweiss cannot be said to be a showy plant, and probably were it not for the fact that it commands a certain amount of veneration owing to its growing on the Alps in more or less inaccessible places, it would not be grown in English gardens. L. alpinum belongs to the Daisy order (Compositæ), grows 3in. or so high, and bears small yellow flowers surrounded by rosettes of dense woolly or cottony bracts in July. It is easily reared from seeds sown in sandy soil in a cold frame. The seedlings should be planted in sandy loam in sunny nooks of the rockery. There they will thrive and bear their curious flowers just as freely as on the Alps. It is a mistake to uproot plants on the mountains and send or bring them home; they rarely survive. The Edelweiss will not thrive in smoky districts.

Leptosyne.—Half-hardy or hardy annuals and perennials, belonging to the Daisy Order (Compositæ). They bear large yellow flowers on long stalks, which are useful for cutting. L. calliopidea is a Californian species, growing I to 2ft. high; L. Douglasii a half-hardy annual, growing Ift. high; and L. Stillmanii a hardy annual Ift. high. All flower freely in summer. L. Douglasii is best reared from seed in heat, and the seedlings planted out in May; the others may have their seed sown in the open ground in April, or in heat in March, and the seedlings afterwards planted out. Ordinary soil and a sunny position.

Lewisia (Spatlum).—Only one species of this genus is grown, and that is L. rediviva, a native of N. America and a member of the Purslane order (Portulacaceæ). It is a dwarf perennial, growing only an inch high and bearing large rose or white flowers in summer. A very neat and pretty plant to grow on a sunny rockery, in sandy loam and peat, mixed with small pieces of stone. It loves moisture in summer, so should be well watered in dry weather. Plant in March or April. This interesting plant apparently withers and dies after flowering, but its fleshy roots retain their vitality and put forth new growth in spring. Increased by seeds sown in sandy loam and peat in gentle heat in spring; also by division of the roots in March.

Liatris (Snake-root; Blazing Star).—Hardy perennials, natives of N. America, and members of the Daisy order (Compositæ). They are very showy plants, bearing their flowers in spikes or panicles, and thriving well in sun or shade. The

chief species are: L. elegans, purplish, 2 to 4ft., July to Oct.; L. graminifolia, rosy-purple, grass-like foliage, 4ft., Sept.; L. pyncnostachya, pale purple, Sept., 4ft.; L. scariosa, purple, Sept., 2ft.; and L. spicata (Devil's Bit), rosy-purple, Sept., 3ft. The foregoing will thrive in good, rich, moist soil in sunny or shady borders, or by the side of ponds or water courses. Plant in autumn. Increased by seeds sown in sandy soil in a cold frame; or by division of the roots in autumn or spring.

Libertia.—L. formosa is a beautiful hardy perennial, belonging to the Iris order (Iridaceæ), and a native of Chili. It has deep green evergreen foliage and bears beautiful white flowers in spikes or trusses in May. This plant requires to be grown in peat and loam on a warm, sunny rockery, or on the margin of a bed containing peat-loving shrubs. Planting is best done in March or April. Increased by division of the creeping root-stocks in March or April.

Limnanthes.—The only species grown is L. Douglasii, a native of California and a member of the Geranium order (Geraniaceæ). It is a hardy annual, grows 6 to 8in. high, and bears yellow and white sweet-scented flowers in summer. A first-rate annual for growing in masses in beds or borders, or as edgings thereto. Will grow in ordinary soil, and requires a sunny position. Sow seeds outdoors in September to ensure plants for flowering late in spring, and in March or April for summer blooming.

Linaria (Toadflax).—Hardy annuals and perennials, belonging to the Foxglove order (Scrophulariaceæ). The annual species are: L. aparinoides, sulphur-yellow, striped black, summer, 18in., N. Africa; L. a. splendens, various colours; L. maroccana, violet-purple, white and yellow, summer, gin. Morocco; L. m. rosea, carmine-rose; L. m. hybrida, various colours; L. bipartita, lilac-purple and yellow, June to Sept. 12 to 18in., Algeria; L. b. alba, white; L. b. splendida purple; L. Broussonettii, bright orange, dark spots, June to Sept., 3in., Spain; L. reticulata, purple and yellow, May to July, 2 to 4ft., Portugal; L. r. aureo-purpurea, purple and orange; L. spartea, deep yellow, 1ft., June to Sept., Mediter ranean coast. The perennial species are: L. alpina, bluish violet and yellow, summer, 6in., Alps, suitable for rockeries L. Cymbalaria (Ivy-leaved Toadflax or Mother of Thousands) bluish-purple, lilac, or white, summer, shoots trailing, suitable for walls or rockeries, Britain; L. c. alba, pure white; L dalmatica, yellow and orange, summer, 3 to 4ft., S. Europe good border plant and flowers valuable for cutting; L. hepati cæfolia, lilac purple, summer, shoots creeping, suitable for rockery, Corsica: L. pallida, pale blue, scented, July to Sept., 2 to 3in., Italy, suitable for rockery; L. purpurea, bluishpurple, summer, 1 to 3ft., South Europe, suitable for old walls and dry places; L. saxatilis, yellow, summer, shoots creeping and suitable for a rockery, Spain: L. vulgaris, yellow, summer, 1 to 2ft., Britain, suitable for dry, sunny banks. The annual species require to be raised from seeds sown in April where the plants are to flower, and the seedlings thinned out when an inch or so high. Sow in hold groups. The perennial kinds will succeed in any good garden soil not too heavy or damp. A sunny rockery or border is essential. Plant in autumn or spring. Increased by seeds sown in gentle heat in spring, the seedlings hardened off and planted out in May; by seeds sown in the open in April; also by cuttings of non-flowering side-shoots inserted in sandy soil in a cold frame in early autumn. L. multipunctata is identical with L. Broussonettii.

Lindelofia (Himalayan Hound's Tongue).—L. spectabilis is the only species, and this is a hardy perennial, growing 1 to 2 ft. high and bearing small violet-purple tubular flowers in drooping clusters in early summer. It belongs to the Forget-me-not order (Boraginaceæ) and is a native of N.W. India. This showy perennial requires a well-drained sandy soil and a sunny sheltered border. Does well in chalky soils. Plant in October or March. Increased by seeds sown in gentle heat in March, or in a sunny border outdoors in April.

Linum (Flax).-A genus of valuable and elegant hardy perennials or annuals, belonging to the Flax order (Linaceæ). L. alpinum is a dwarf species, growing 6in, high, and bearing blue flowers in summer. A native of S. Europe, and adapted for rockery culture. L. campanulatum is another S. European species, growing 1ft. high, and bearing bright yellow flowers in June. L. grandiflorum is a bright and showy annual, growing 1ft. high, and bearing rosy-red flowers in summer. A fine plant for massing in beds or borders. A native of Algeria. L. flavum, a native of Austria, bears golden-yellow flowers, and grows 18in, high. L. narbonense is a lovely S. European species, bearing sky-blue flowers on long, graceful stems in June and July, and growing ift. high. L. perenne is a native species, bearing blue flowers, and growing 18in, high. The annual species (L. grandiflorum) may be reared from seed sown in the beds or borders in April where required to grow and flower. It displays its dazzling colour to the best effect when grown in a mass. The perennial species will thrive in good ordinary soil in sunny borders. They are best

grown in bold groups of several plants. Plant in autumn or spring. Readily increased by seeds sown outdoors in April, the seedlings being afterwards transplanted to their flowering positions. Also by cuttings inserted in sandy soil in a cold frame in summer or early autumn, and by division in March.

Lithospernum (Gromwell).—Hardy perennials, belonging to the Forget-me-not order (Boraginaceæ). The species named below are of dwarf growth and suitable for growing on rockeries or as edgings to borders. They will succeed in good ordinary well-drained soil, and may be planted in spring or autumn. The species worthy of culture are: L. prostratum, stems trailing and evergreen; flowers a Gentian blue, and borne in early summer; good for trailing over stones on a rockery; native of S. Europe. L. purpurea-cæruleum; stems creeping; flowers blue, borne in May; suitable for rockery. L. petræum; habit bushy; flowers violet blue, May; a neat plant for a sunny rockery. The latter really belongs to another genus, Moltkia. Increased by cuttings of previous year's growth inserted in sandy peat in a cold frame in August.

Lloydia.—L. serotina is an interesting dwarf alpine plant, belonging to the Lily family (Liliaceæ). It is a native of the Alps, also of Snowdon in Wales, has small scaly bulbs, and bears white or yellow flowers in June. A partially shady rockery and good ordinary soil will suit its requirements. Plant in autumn or spring. Increased by offsets in autumn.

Lobelia.—This genus contains tender and hardy species, and it is the latter only that we shall deal with here. For the tender kinds see the section devoted to "Tender Border Plants." The hardy species are natives of N. America, and belong to the Harebell order (Campanulaceæ). The principal kinds are: L. cardinalis, a native of the United States, grows 1 to 3ft. high, and bears brilliant scarlet flowers on leafy racemes in August. L. fulgens is a most attractive Mexican species, growing I to 2ft. high, and having reddish flower stems and very bright scarlet flowers borne on racemes in summer. A variety of it named Queen Victoria has foliage of a rich purple colour and crimson flowers. Firefly is another richly coloured variety. Attraction is a new variety, with vermilion-scarlet and crimson flowers, the latter having a white throat; and Andrew Barlow, magenta, with rich bronzy foliage, is another new and showy variety. L. splendens, scarlet, and L. syphillitica, blue, white or rose, are two other pretty species. L. hybrida is a hybrid, yielding varieties of a rose, violet and other shades of colour. The foregoing species require a deep rich soil and a moist shady position to



THE JAPANESE PRIMROSE (PRIMULA JAPONICA).

See p. 202 for description and culture.



do really well. Plenty of leaf-mould, well-rotted manure and a little peat should be mixed with the soil before planting. These plants show to best advantage grown in a mass by themselves, on the side of a lake or pond or in a corner of the garden. L. syphillitica, indeed, may be grown in groups in the ordinary border, as it is hardier and less exacting as to soil than the others. Plant in autumn or spring. In cold districts L. cardinalis, fulgens and splendens are apt to damp off in winter. To guard against this, lift the plants in October, place in pots, and winter in a cold frame, planting out again in March. The perennial species may be reared from seeds sown in heat in spring; by division of the roots in March; and by cuttings of the roots at the same time.

Lotus (Bird's-foot Trefoil).—The only species of this genus worthy of a place in the garden is the Double Bird's-foot Trefoil (L. corniculatus fl. pl.). This species is a native of our meads and uplands, and a member of the Pea order (Leguminosæ). The double variety is a dwarf plant, bearing double yellow flowers striped with red in summer and autumn. A pretty plant to grow in ordinary soil on a sunny rockery. Plant in autumn or spring. Increased by seeds sown outdoors in autumn or spring.

Lunaria (Honesty).—The Common Honesty (L. annua, Syn. L. biennis) is an old-fashioned garden plant grown for the sake of its violet, lilac, or white flowers, borne in early summer, and its silvery seed-pods borne later on. It is a native of N. Europe, and grows 2ft. high. It may be grown as an annual by sowing the seeds outdoors in March, or as a biennial by sowing them in April or May. The best results are obtained by treating the plants as biennials, this giving them a longer period to develop and produce flowers and seeds more freely. It is best to sow where the plants are giving a longer period to develop and produce flowers and seeds more freely. It is best to sow where the plants are to grow, and to thin the seedlings out early to 10 or 12in. apart. Gather the flowering stems when the pods are quite ripe, hang them head downwards in a shed to get quite dry. then peel off the outer portions of the pods, leaving the silvery centre or membrame. In the latter state the pods look extremely effective mixed with dried grasses for the winter decoration of the home. Wallflower order (Cruciferæ).

Lupinus (Lupin).—A genus of showy and popular hardy annuals, herbaceous and shrubby perennials, belonging to the Laburnum order (Leguminosæ). The annual species are very pretty, easily grown and well suited for large or small gardens.

They are: L. Hartwegii, a native of Mexico, growing I to 2ft high, and bearing blue, white or rose flowers in summer. L luteus, a native of S. Europe, growing 12 to 18in. high, and bearing yellow, fragrant flowers in summer. L. mutabilis, a native of Columbia, growing 3 to 4ft. high, and bearing large, white, blue and yellow fragrant flowers from June onwards. L. Cruikshanksii is a blue, yellow and lilac variety; and so is the scarlet-flowered hybridus coccineus. L. nanus is a Californian species, growing 1ft. high, and bearing lilac and blue flowers in summer. Albus (white) and albo-coccineus (white and carmine) are varieties of it. L. subcarnosus is a native of Texas, grows 1ft. high, and bears blue, yellow and white flowers from July onwards. L. tricolor elegans is a purple and white flowered species, growing a foot or so L. densiflorus (Syn. L. Menziesi) bears fragrant, sulphur-yellow flowers in July; height, 2ft. The foregoing are suitable for growing in bold groups in sunny borders in good ordinary soil. Sow the seeds a quarter-inch deep and thinly in March or April. When the seedlings are an inch or so high thin them out to 6 or 8in. apart. L. arboreus (Tree Lupin) is a more or less shrubby species. It grows into a large bush 4ft. or so high, and bears a profusion of fragrant, yellow flowers in summer. In warm, sheltered positions it retains its silvery downy, prettily-cut leaves all the winter. white variety, Snow Queen, is a charming plant. A well-grown specimen will be literally covered with a mass of white blossoms in summer. These two should be grown in every garden where is a warm sheltered spot and a not too heavy soil. In low-lying, damp gardens it is liable to be injured by frost in winter. It often makes a fine bush grown in a well-drained border at the foot of a south wall. Plant in spring. The best of the perennial species are L. nootkatensis, a native of Nootka Sound, growing 18in. high, and bearing blue, purple, white and yellow flowers in early summer. L. polyphyllus is the well-known Blue Lupin of gardens. It is a native of California, grows 3 to 6ft. high, and bears blue flowers in handsome spikes during early summer. This plant is a great favourite in town, suburban and country gardens. It forms an elegant bush when well established, and yields a large number of handsome spikes of flowers. The stems are herbaceous, drying down in autumn. There are several pretty varieties of it, namely, albus, white; Foxii, blue, striped white; Purple King, rich purple. A packet of mixed seed will give a great variety of colours. The herbaceous perennial species require a deep, loamy soil, well-drained, and freely mixed with plenty of decayed manure. They also prefer a sunny position. The Blue Lupin (L. polyphyllus) may be grown singly or in a mass. Plant in October or March. The perennial species are readily increased by seeds sown outdoors in April, transplanting the seedlings as soon as they can be handled into nursery beds, and finally into their permanent quarters in October. May also be increased by division in autumn or spring. The Tree Lupin may be reared from seed in a similar way, or by cuttings of shoots inserted in a cold frame in summer. A new race of hybrids, the result of crossing L. arboreus with L. polyphyllus, has been obtained by Messrs. Barr and Son, Long Ditton. These bear long spikes of yellow and blue, yellow and white, and blue and white flowers, and are extremely pretty border plants.

Lychnis (Campion).—Hardy annuals and perennials, belonging to the Carnation order (Carvophyllaceæ). kinds named below are showy and easily grown border plants. adapted for sunny borders and culture in good ordinary soil. The only annual species of note are the following: L. Cœli-rosa (Syn. Agrostemma Cœli-rosa), popularly called the Rose of Heaven. This grows 18in. high, and bears rosy-purple flowers in summer. Nana is a dwarf variety of it, with fimbriated petals. Native of the Levant. Sow seeds in patches in the borders in April or May, and when the seedlings are an inch or so high, thin them to 6in, apart. L. oculata, better known as Viscaria oculata, but now included in the genus Lychnis, is a showy annual from Algiers. It grows 12 to 18in, high, and bears pinkish-purple flowers in summer. The following are pretty varieties of it: Cardinalis, crimson-purple, corulea, bluish; fulgens, blood red, picta elegans, crimson-purple. A lovely annual for massing in beds or borders. The perennial species are as follows: L. alpina, a dwarf native species, growing 4 to 6in. high, and bearing rosy-pink flowers in June. good rockery plant. L. chalcedonica, a Russian species, bearing bright scarlet flowers in dense heads in summer, and growing 2 to 4ft. high. A showy border plant. Alba is a white, and flore pleno a vermilion scarlet, double-flowered form of it. L. coronaria (Syn. Agrostemma coronaria) is a South European species with crimson-red flowers, and atrosanguinea intense crimson-coloured variety of it. Both grow 2 to 3ft. high, and flower in summer. Flowers most useful for cutting. L. coronaria hybrida bears brilliant crimson flowers, and grows 18in, high. L. dioica rubra plena (Double-Red Campion), a native species, is a showy kind, with double crimson flowers; height, 2ft. L. Flos-cuculi flore pleno (Double Ragged Robin) is another attractive native kind, growing 1 to 2ft. high, and bearing double rosy flowers in summer. L. fulgens bears bright vermilion flowers in spring and summer, grows 8 to 12in, high, and is a native of Siberia. L. grandiflora comes

from China, bears scarlet flowers in June and July, and grows 12in. high. A rather tender species. L. haageana is a hybrid, with bright scarlet or white flowers, resembling a Maltese cross, borne in summer, hairy leaves, and grows a foot or so high. The colours, however, vary a good deal in their tints. A fine species for massing in a partially shady border. L. Lagasceæ is a lovely dwarf species from the Pyrenees. It grows only 3in. high, and bears rosy flowers with white centres in spring and summer. Suitable for rockery culture. alba flore pleno (Double White Campion) is a native species, growing 2 to 3ft. high, and bearing double white flowers which are most useful for cutting. L. Viscaria (German Catchfly) grows 9 to 12in. high, and bears rosy-red flowers in eary summer. Alba grandiflora is a white variety, and splendens plena a very showy, double, rosy variety of it. The latter is a very fine plant for the front of sunny borders Plant the perennial species in autumn or or for rockeries. spring. Increased by seeds sown outdoors in April; also by division of the roots in autumn or spring. The double sorts can only be increased by cuttings in heat in spring and division in autumn or spring.

Lysimachia (Loosestrife; Creeping Jenny).—The Lysimachias belong to the Primrose order (Primulaceæ), and are hardy perennials. The Creeping Jenny (L. Nummularia) is a native species, with trailing shoots and yellow flowers, much grown in town and suburban gardens, in moist shady corners. A good plant for shady rockeries or banks. L. nemorum (Yellow Pimpernel) is another pretty trailing species of less vigorous growth than the preceding species, and adapted for the same purpose. There is a pretty golden-leaved form of the Creeping Jenny which may be grown under similar conditions to its parent. The most showy of the other species are: L. chethroides, white, July to September, 3ft., foliage prettily tinted in autumn, Japan; L. Ephemerum, white, summer, 3ft., S. Europe; L. punctata, yellow, July, 1ft., Europe; L. thyrsaflora, yellow, June to July, 3ft.; L. vulgaris, yellow, July and August, 3ft., Britain. The foregoing will flourish in good ordinary, moist soil in partially shady borders, or in groups by the side of streams or ponds. They are very partial to moisture. Plant in autumn or spring. Increased by division of the roots in October or March. Also by seeds sown outdoors in April.

Lythrum (Purple Loosestrife).—Hardy perennials, belonging to the Loosestrife order (Lythraceæ), and adapted for culture in moist shady borders or on the margins of streams, ponds, etc. Ordinary soil. L. alatum is a N. American

species, with purple flowers borne in summer and autumn; height, 3 to 4ft. L. Salicaria is a native species, growing 2 to 3ft. high, and bearing reddish-purple flowers in July. Roseum and superbum are superior forms of it, with brighter flowers and larger spikes. L. virgatum is a Siberian species, bearing purple flowers in July, and growing 3ft. high. Rose Queen is a variety with rosy blossoms borne on long spikes. Plant in autumn or spring. Increased by division in autumn or spring, also by seeds sown outdoors in April; or by cuttings inserted in damp soil in early summer.

Macrotomia (Prophet-flower).—A very interesting rockery perennial, a native of the Caucasus and a member of the Borage family (Boraginaceæ). No plant flowers more freely or has a showier appearance. A. echioides (Syn. Arnebia echioides) bears in summer pretty primrose or golden-yellow flowers, with five black spots on each. As the flowers increase in age these spots fade away. The average height when fully grown in 18in. This plant prefers a sandy soil and a slightly shady position on the rockery. Plant in April. Increased by cuttings inserted in sandy soil in a cold frame during September.

Maianthemum (Twin-leaved Lily of the Valley).—M. Convallaria is a lily of the valley-like hardy perennial, a native of this country and other parts of Europe. It grows 4 to 6in. high, has heart-shaped leaves, creeping root-stocks, and white fragrant flowers borne in racemes in May and June. It belongs to the Lily family (Liliaceæ), and requires to be grown in partially shady borders or rockeries in loam and leaf-mould. Plant in autumn or spring. Increased by division of the creeping roots in autumn or spring.

Malcolmia (Virginian Stock).—The Virginian Stock is a well-known hardy annual, a great favourite in town and country gardens. M. maritima is a native of S. Europe, grows 6 to 12 in. high, and belongs to the Wallflower family (Cruciferæ). The flowers vary a good deal in colour, a packet of mixed seeds producing lilac, rose, red or white tints in spring and summer. Alba is a pretty white, and Kermesina or Crimson King a showy red variety of it. This annual is a splendid plant for edging a bed or border, or for growing in masses in small beds or on the margins or borders. It will grow in any ordinary soil in sun or in shade. Seeds may be sown in September to flower in spring; in March or April to bloom in summer; or in May and June to blossom later in the year.

Malope.—A genus of hardy annuals, belonging to the Mallow order (Malvaceæ). M. trifida is the only species grown, and this bears purple flowers and grows 3ft. high. Its varieties, grandiflora, crimson-purple; rosea, rose; and alba, white, are superior forms of it. All are very handsome border plants when grown in a mass. The flowers are large, bold and showy. Sow seeds thinly and 3in. deep in a sunny border in April, and thin the seedlings out early to 6 or 8in. apart. They like a deep rich soil and plenty of moisture in dry weather.

Malva (Mallow).—Hardy European perennials annuals belonging to the Mallow order (Malvaceæ). The only perennial species worth growing are M. Alcea, rosy-purple, summer, 4ft.; and M. moschata (Musk Mallow), rose, summer, 3ft. There is a pretty variety of the latter named alba, with white flowers, which is well worth growing. The two latter are natives of Britain. M. crispa is a Chinese annual species, growing 2ft. high, with curled leaves and white flowers tipped with pale purple. The perennial species are suitable for the mixed sunny border, and will grow in good ordinary soil. Plant in autumn or spring. The annual species may be sown in the open sunny border in April; or in heat in March, and the seedlings planted out in May. In either case the plants should be quite 2ft, apart to allow them to develop into bushy specimens. Increase the perennial species by seeds or cuttings.

Martynia (Devil's Horns).—Hardy or half-hardy annuals, belonging to the Nat. Ord. Pedaliaceæ, and natives of Mexico. Two species only are worthy of culture in gardens, and these are M. fragrans, crimson-purple and yellow, summer, 2ft.; and M. lutea, orange-yellow and red, August, 2ft. Both are very interesting plants to grow in mixed sunny borders. Sow seeds in heat in March and plant the seedlings out a foot apart in the borders in May; or outdoors early in May. Before sowing steep the seeds for a day or two in luke-warm water, otherwise they will germinate very slowly. The flowers are fragrant.

Matricaria (Mayweed).—M. inodora fl. pl. (Double Mayweed) is a showy, free-flowering, hardy perennial worthy of a place in large or small gardens. It grows about 2ft. high, has feathery, fennel-like foliage, and double white flowers borne freely in summer and autumn. Belongs to the Daisy order (Compositæ). and is a native of Britain. May be grown in ordinary soil, sing'y or in masses, in a sunny border. On heavy, cold soils it is best treated as an annual or biennial. Easily reared from seeds sown outdoors in April; or, better

still, by cuttings of non-flowering shoots inserted in a shady corner in summer; or division of the roots in autumn.

Matthiola (Stock).—The Stock is a well-known garden flower, belonging to the Wallflower order (Cruciferæ). are several distinct types of stocks in cultivation. example, there is the Ten-week, Intermediate, East Lothian, the Brompton, Queen, and Wallflower-leaved, all originally derived from M. incana. The Ten-week Stock, so called because it usually flowers in ten weeks from sowing the seeds, exists in several distinct types as the Dwarf. and Tall German, Perfection, Pyramidal, Victoria, Rocket, etc., the special names of which will be found in seed This stock is one of the showiest of flowers, and may be had in shades of white, crimson, blue, purple, yellow, rose or scarlet. The plants grow from I to 2ft, high and flower profusely throughout the summer and autumn months. To grow them really well the seeds should be sown in shallow boxes of light soil in a heated greenhouse, or on a hot-bed in March, and as soon as the seedlings can be safely handled they should be transplanted three in a 3-in, pot, or 2 to 3in, apart in shallow boxes of good soil, kept under glass for a week, then gradually hardened off, and planted out late in May. Great care should be taken to keep the seedlings near the glass so that they may not become drawn. Those who have no artificial heat may sow the seeds in boxes in a cold frame in March, or even outdoors in April; but such seedlings will not flower till late in summer. The soil in which Ten-week stocks are to be grown should be deep and rich, plenty of rotten manure being dug in before planting. Plant the seedlings out a foot apart each way, and nip out the centre shoot if dwarf bushy plants are required. Occasional applications of weak liquid manure will be beneficial when the plants begin to flower. There is a strain of Ten-week stocks called Perpetual Flowering, of which Princess Alice is a typical variety. This bears fine spikes of lovely double white flowers from June to November. Rear and treat as advised for the ordinary kinds. The Intermediate stock is a biennial, bearing white, scarlet, crimson or purple flowers. This stock requires to be reared from seed in cold frames in July or August, the seedlings grown on in pots in frames till spring, then planted out to flower in May, June, etc. In mild districts the plants may be grown in beds or borders all the winter. The East Lothian stock has similar coloured flowers to the Intermediate, and flowers in the autumn. The seeds have to be sown in March, and the seedlings treated as advised for Ten-week stocks, planting out in May. The plants then flower from

September onwards. The Emperor is a robust strain of the latter stock, and the Cocardeau or Giant Cape is another vigorous kind, which flowers freely in autumn. The Brompton, Queen and Wallflower-leaved stocks are biennials, and require to be reared from seeds sown in boxes of light soil in a cold frame in July. When the seedlings are large enough to handle transplant them 2 or 3in. apart each way in other boxes till they get fairly strong, then plant them out in sunny beds or borders in mild districts; or singly, in 3-in. pots, and keep in a cold frame till March, in colder districts. These stocks require a firm and not over rich soil. In rich soils they make sappy growth, and are easily injured by frost. The plants flower the following summer. There are two or three interesting species which are worth growing by those who have plenty of space. These are M. bicornis, bearing purplish-red or lilac flowers, fragrant at night only; M. tricuspidata, pale purple; and M. tristis (Night-scented Stock), white or purple, fragrant at night. Sow seeds of the firstnamed and treat as advised for the Brompton stock. M. tricuspidata may be treated as advised for Ten-week stock; and M. tristis sow in heat in March and plant out in May; or in July outdoors and plant out in autumn to flower the next year. Before we leave the subject of stocks it may be well to point out that good seeds of these flowers cannot be saved from home-grown plants. This is especially the case with the best double-flowered kinds, good seeds of which only can be obtained from the Continent.

Meconopsis (Indian Poppy).—Hardy biennials and perennials, belonging to the Poppy family (Papayeraceæ). The species named below are very handsome and showy border plants. The Common Welsh Poppy (M. cambrica) is a wellknown perennial species, growing I to 2ft. high, having pale green pinnate foliage and yellow poppy-like flowers borne in summer. A good kind for growing on old walls or banks, or naturalising in the wild garden. The other species are bien-They are M. aculeata, purple, summer, 2ft., N.W. India; M. nepalensis, golden-yellow, large, summer, 3 to 5ft., Himalayas; M. Wallichii, pale blue, summer, 4 to 6ft., Himalayas. The three last named require to be grown in sunny sheltered positions, in a deep, well-drained, sandy loam, wellenriched with rotten dung and leaf-mould. Sow seeds in cold frame in spring, and either plant out the seedlings in their flowering positions in May, or grow them on in pots till the following spring, and then plant out. In some districts the three species named will assume a perennial character, but it is safer to rear fresh plants annually. The Welsh Poppy is easily reared from seed in the open border in April, also by division of the roots in spring.

Melissa (Balm).—The Common Balm (M. officinalis) is the well-known fragrant herb, and is of no special value in the flower garden. There is, however, a variegated form with green and golden foliage which is sometimes used as an edging or as a patch in the mixed border. It will thrive in any soil or position. Increased by division in autumn. Nat. Ord. Labiatæ (Sage family).

Melittis (Bastard Balm).—M. Melissophyllum is a native perennial, with creamy white and purple-spotted flowers borne in May and June. A variety of it named grandiflora has creamy-white flowers. It grows 2ft. high, and belongs to the Sage order (Labiatæ). A pretty plant to grow in the woodland garden or in the mixed, shady fern border. Increased by seed or division.

Mentha (Mint).—Two or three dwarf kinds of mint are used for carpeting or edging purposes in the flower garden. M. gibraltarica, a variety of our native Pennyroyal (M. pulegium), grows a couple of inches high, and forms dense tufts of green foliage. It is much used in carpet bedding. Not being quite hardy, tufts of it have to be lifted in autumn and wintered in a cold frame. In spring these can be divided and grown on very easily in gentle heat to produce any number of plants to put out in May. M. Requieni is another dwarf hardy plant, with fragrant foliage, which may be used for carpeting bare spaces between rose trees, or early-flowering bulbs. M. rotundifolia variegata is a pretty dwarf variegated Mint, useful for growing on dry banks or edging a dry border. Increased by division. Nat. Ord. Labiatæ (Sage order).

Mentzelia.—Hardy annuals or biennials, belonging to the Nat. Ord. Loasaceæ, and natives of California. A well-known species is M. Lindleyi (Syn. Bartonia aurea). This is an annual species, growing 12 to 18in. high, and bearing golden-yellow flowers with a large cluster of stamens in the centre. A very pretty and showy annual for a sunny border. The other annual species are: M. albecans, palest yellow, 2 to 3ft.; M. bartonioides, sulphur-yellow, 1ft.; and M. ornata, white, fragrant, 1ft. The foregoing are really the only kinds worth growing. All flower in summer. Sow the seeds thinly in the open border early in April, and thin the seedlings out early to a foot apart. A sunny position and a not too heavy scil will suit the foregoing annuals.

Mertensia (Virginian Cowslip, etc.).—A genus of Borageworts (Boraginaceæ), bearing blue or purplish flowers, and in many respects resembling the Borage and Forget-menot. The following species are all very pretty and worthy of culture: M. paniculata, violet-blue, summer, 18in. to 2ft., N. America; M. sibirica, light blue, summer, 18in., N. America; M. sibirica alba, white; M. pulmonaroides (Syn. M. virginica), gentian-blue, May to July, 12 to 15in., Virginia; M. dahurica, sky-blue, May and June, 6 to 12in., Dahuria; M. maritima, pink and blue, May and June, 18in. to 2ft., Britain. These plants will thrive in good ordinary soil on the margins of shrubbery or mixed borders, or on rockeries. When grown in masses they produce a very pretty effect. Plant in October or March. Increased by seeds sown outdoors in April, or when ripe in cold frames, planting out in spring; also by division in March.

Meum (Spignel).—The only species grown is M. athamanticum, a native of Britain, and a member of the Carrot family (Umbelliferæ). This perennial plant has fragrant, finely-cut foliage, grows 2 to 3ft. high, and bears white, sweet-scented flowers in May. A desirable plant for naturalising in shrubbery and woodland borders or the wild garden. Will grow in ordinary soil. Plant in autumn or spring. Increased by seeds sown outdoors in April, or by division of the roots in autumn or spring.

Michauxia (Michaux's Bellflower).—M. campanuloides is a native of the Levant, a hardy biennial, and a member of the Harebell order (Campanulaceæ). It is of a stately habit of growth, grows 3ft. high, and bears rosy-white passion-like flowers in branching spikes in summer. A recently introduced species is M. Tchihatcheffii, a native of the Caucasus, growing 3ft. high, and bearing white flowers. Both require a rich, deep, well-drained, loamy soil and a sunny position. Damp is fatal to them. Best raised from seeds sown in sandy soil in a cold frame in September, kept in the frame till the following May, then planted out.

Mimulus (Monkey Flower; Musk).—Hardy perennials, belonging to the Foxglove order (Scrophulariaceæ). M. moschatus, a North American species, is the well-known Musk, with trailing stems, fragrant foliage and yellow and orange flowers. This will grow in any damp rich soil in shady spots. M. Harrisonii is a more robust variety, with larger flowers, but scarcely so hardy, requiring to be planted annually in May. M. luteus is another American species naturalised in many parts of England. It has yellow flowers spotted with

crimson or purple. Nobilis is a dwarf variety with duplicate or hose-in-hose flowers, and variegatus is another form with white or yellow flowers blotched with crimson or purple. cupreus is the parent of a lovely strain of blotched or spotted varieties, which are extensively grown in gardens. The latter is known as M. cupreus maculosus. There is also a hose-inhose form of M. cupreus called duplex, with one corolla inserted in the other, and a coloured calvx. M. cardinalis is a tall species, growing 18in, high and bearing orange and scarlet flowers. There are also a number of varieties of it, the names of which will be found in trade lists. All the foregoing do best in light, rich, moist soils in shady or partially shady spots. M. luteus flourishes in shallow water-courses. Kinds like M. moschatus, cupreus, cardinalis, and luteus may be planted out in spring to grow permanently. The spotted varieties or hybrids of M. cupreus are, however, less hardy, and are best reared from seed in heat in March, the seedlings transplanted. grown on in heat till May, and then hardened off and planted out later. Seeds may also be sown in a cold frame in August and the seedlings planted out in spring. The other species may be reared from seed, cuttings, or division of the roots in spring.

Moluccella (Shell Flower).—M. lævis is a Syrian half-hardy annual, bearing white, dead-nettle-like flowers, surrounded by bell-shaped, veined calyces. It is grown chiefly for the value of its curious calyces and stems for skeletonising. It belongs to the Lavender order (Labiatæ), grows 12 to 18in. high, and flowers in August. Sow seeds in heat in March, grow the seedlings on till May, then harden off and plant out in June in ordinary soil in a sunny border.

Monarda (Bee Balm; Bergamot; Oswego Tea; Horse Mint).—A genus of showy, fragrant-leaved perennials, natives of N. America, and adapted for culture in mixed sunny borders and ordinary soil. Members of the Lavender order (Labiatæ). The species and varieties in general cultivation are: M. didyma, bright scarlet flowers, borne in summer; green bracts; height, 2 to 3 ft.; a very showy and popular plant. following are varieties of it: alba, white; purpurea, purple; and rosea, rose. M. fistulosa is a vigorous species, growing 4 to 5ft. high, and bearing purple flowers in autumn, with purple-tinted bracts. Carnea is a flesh-coloured variety, grewing 21ft. high; and mollis, a lilac-flowered form, growing 3ft. These plants do well in town and suburban gardens. Plant in autumn or spring. Increased by seeds sown outdoors in April; also by division in autumn or spring. N

Morina (Whorl Flower).—Hardy perennials, with spiny, thistle-like foliage, natives of the Himalayas, and members of the Teazel order (Dipsaceæ). The following species are very handsome plants for the mixed border, thriving in good, well-drained soil, and where they are protected from cold winds. M. longifolia bears rose and white flowers in whorls on long spikes in summer, and grows 2 to 3ft. high. M. betonicoides is a dwarfer species, growing 12 to 18in. high, and bearing rosy-purple and crimson-spotted flowers. M. coulteriana is still dwarfer, its height being 6 to 12in., and its flowers pale yellow. Plant in autumn or spring. Increased by seeds sown in spring in a cold frame; also by division in March.

Morisia.—M. hypogæa is a charming alpine plant, a native of the Sardinian mountains, and a member of the Wallflower order (Cruciferæ). This little gem has dandelion-like foliage, borne in rosettes 3in. high, and bright golden flowers produced freely in April and May. A showy plant to grow in shady borders in a rich, moist, gritty loam. Plant in spring. Increased by seed sown in a cold frame in spring; also by division of the roots at same time.

Muchlenbeckia.—Evergreen trailing or climbing plants, with maidenhair-like foliage, belonging to the Rhubarb order (Polygonaceæ). M. axillaris or nana is a dwarf species, growing a foot high, and suitable for rockery culture. M. adpressa is another trailing species with pink flowers, and M. complexa a rambling-growing kind, both adapted for covering tree stumps and large stones on rockeries. M. varians is a more vigorous form, suited for covering arbours or trellises quickly. Natives of Australia and New Zealand. Ordinary good soil or a sandy loam will suit their requirements. Plant in autumn or spring, and increase by cuttings of young shoots in a cold frame in summer.

Mulgedium (Blue Thistle).—M. Plumeri, or more properly, Lactuca Plumeri, is a robust-growing, hardy perennial, growing 5 to 7ft. high, with large, handsome, dandelion-like foliage and blue flowers, belonging to the Daisy family (Compositæ). It is specially suited for large, mixed borders or massing in the wild garden. Easily raised from seeds sown outdoors in April, the seedlings being afterwards transplanted where the plants are required to grow permanently.

Myosotis (Forget-me-not).—A genus of hardy perennials, well known and highly esteemed for their pretty blue or white flowers in spring and summer. They belong to the Borage order (Boraginaceæ). Two species, the Wood Forget-

me-not (M. sylvatica) and the Marsh Forget-me-not (M. palustris) are natives of Britain. M. sylvatica (blue), and its white, rose and striped varieties, are popular kinds for growing in masses in beds and borders to flower in summer. These grow 9 to 12in. high. M. dissitiflora (Early Forget-me-not), a native of the Alps, is greatly valued for spring bedding, its sky-blue flowers appearing from February onwards; height, oin. Alba is a white variety; grandiflora, a large-flowered, sky-blue one; and Perfection a still large-flowered sort. M. palustris, skyblue, with a yellow eye, and its varieties semperflorens, flowering a long time, and Tom Thumb, a very dwarf kind, are also popular plants for flowering in beds and borders in early summer; height, 9in. M. azorica, a native of the Azores, 18 a dwarf species, growing 6in. high, and bearing indigo-blue flowers in summer. This species is rather tender and suitable only for warm rockeries. There are two pretty forms of it, alba, white, and Imperatrice Elizabeth, bluish-purple; the latter a neat, free-flowering plant. M. alpestris (Syn. rupicola) is a dainty native species, growing 3in, high, and bearing bright blue flowers with a vellow eve in early summer. This species is best grown in gritty loam on a rockery. The following are varieties: Alba, white; pyramidalis, pink, white and blue; Queen Victoria, large blue, and Star of Love, large-flowered and dwarf. The latter sort are excellent for beds or edgings to borders. Forget-me-nots will thrive in good ordinary soil, and are easily reared from seed sown outdoors in April, transplanting the seedlings later on 3in. apart into nursery beds, and finally planting them in their flowering positions in September. Most of the kinds may also be increased by division in spring, also by cuttings in a cold frame

Myrrhis (Sweet Cicely).—The Myrrh or Sweet Cicely (M. odorata) is a native perennial, with finely-cut, graceful foliage and white, fragrant flowers borne in May. It belongs to the Parsley order (Umbelliferæ), grows 3ft. high, and is suitable for growing in the wild or woodland garden, or in the mixed border. Ordinary soil. Plant in autumn or spring. Increased by seeds sown outdoors in spring, or division in October of March.

Nemesia.—Hardy and half-hardy annuals, belonging to the Foxglove order (Scrophulariaceæ), and natives of S. Africa. These plants are remarkable for the great beauty of their flowers, and are most showy subjects for beds or borders. N. strumosa is a half-hardy species, growing ift. high, and bearing flowers ranging from creamy white to yellow, orange and carmine. The strain known as N. strumosa Suttoni is

still more remarkable for its rich variation of colours. N. floribunda grows ift. high, bears white and yellow, fragrant flowers, and is quite hardy. N. versicolor compacta bears blue, lilac, yellow and white flowers, grows ift. high, and is also a hardy species. Seeds of the hardy kinds may be sown in the open border in April, but those of N. strumosa are best sown in heat in February or March, the seedlings carefully transplanted, hardened off in May, and planted out in June. Seeds of the latter may also be sown in the open border in May.

Nemophila (Californian Blue Bell) .- Showy and beautiful hardy annuals, belonging to the Nat. Ord. Hydrophyllaceæ, and natives of California. These plants are great favourites in large and small gardens, especially for growing in beds and as edgings to borders. They will thrive in ordinary soil in sunny positions. Seeds may be sown thinly in April where the plants are required to flower; or in August to flower early in spring. In either case thin the seedlings to 6in. apart as soon as large enough to handle. Nemophilas are splendid annuals to sow as a carpeting to rose beds. The best known kinds are: N. insignis, sky-blue, with white eye; N. insignis grandiflora, large-flowered, very showy; N. insignis alba, white; N. insignis striata, white-pencilled blue; N. Menziesii (Syn. N. atomaria), white, speckled blue; N. Menziesii occulata, pale blue, purple eve; N. Menziesii alba, white, black eve; and N. maculata, white, blotched with purple.

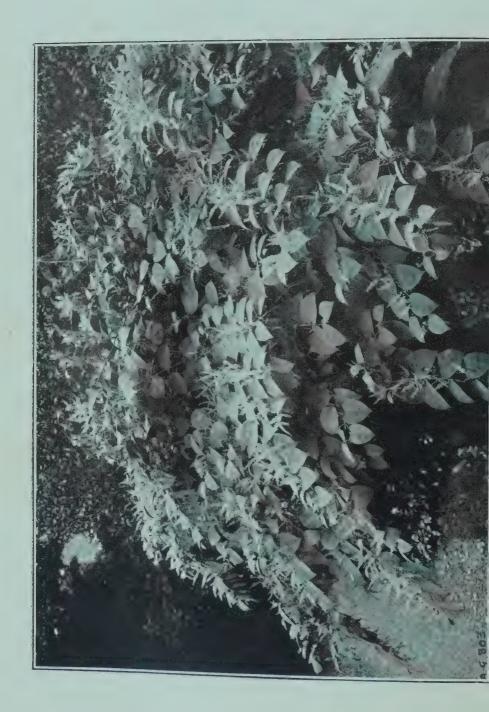
Nepeta (Cat Mint; Ground Ivy).—The variegated form of the Ground Ivy (N. Glechoma variegata), is an attractive plant for trailing over a moist, shady rockery or covering bare spaces under trees. It has trailing stems and leaves prettily variegated with green and silver. N. Mussini is a Caucasian species, growing 1ft. high, and bearing a profusion of light blue flowers throughout the summer months. A good plant to grow in masses in the wild garden or shrubbery border. Ordinary soil will suit both kinds. Plant in autumn or spring. The former may be readily increased by cuttings of the young shoots inscrted in a shady border, and the latter by division in autumn. Sage order (Labiatæ).

Nierembergia (Cup Flower).—Hardy or half-hardy perennials, belonging to the Petunia order (Solanaceæ), and natives of South America. N. rivularis (Trailing Cup Flower) is the best known species. This has trailing shoots and creamy white flowers borne in summer. A charming plant to grow in moderately heavy loam on a sunny rockery. N. calycina, white; N. filicaulis, lilac and yellow; N. frutescens,



A HANDSOME HARDY FOLIAGE PLANT (GUNNERA SCABRA).

See p. 146 for description and culture.



blue and white; and N. gracilis, white and purple, are tender species, and best grown in greenhouses during the winter and planted out in May for summer decoration only. N. rivularis should be planted in spring. Increased by seeds sown in heat in March, the seedlings being hardened off in May and planted out in June; also by cuttings of the young shoots in spring in heat.

Nigella (Devil in the Bush; Fennel Flower; Love-in-amist).—Hardy annuals, with elegant, finely-cut foliage and curiously formed flowers. Members of the Buttercup order (Ranunculaceæ). N. damascena, a native of Asia Minor, grows 1 to 2ft. high, and bears blue flowers surrounded by a quaint mossy fringe. There is a double flowered variety of it called flore pleno, and a white one named alba. N. hispanica has deep blue flowers and no fringe; it grows 1 to 2ft. high, and is a native of Spain. There are white and purple varieties of it. Other less grown species are N. orientalis, yellow and red; and N. sativa, blue. These curious annuals are easily grown. Sow the seeds thinly in patches in sunny borders in March or April, and afterwards thin out to 8 or 12in. apart. Ordinary soil.

Nolana (Chilian Bellflower).—Hardy annuals, natives of S. America, and members of the Convolvulus order (Convolvulaceæ). The few species grown are N. atriplicifolia, blue with white centre, shoots trailing; N. lanceolata, blue, white and green, height 6in.; N. paradoxa, blue, trailing shoots; N. prostrata, blue, trailing shoots; and N. tenella, pale blue, trailing habit. The trailing species are suitable for sunny rockeries and the erect species for a sunny border; ordinary soil. Sow seeds in April where required to flower, and thin the seedlings out to 6in. or so apart later on.

Enothera (Evening Primrose).—Hardy annuals, biennials and perennials, belonging to the Fuchsia order (Onagraceæ). All showy border plants of easy culture. Natives of America. The annual species are Œ. amæna, rose with a crimson spot on each petal, height ift.; Œ. bistorta veitchiana, vellow spotted with blood red, ift.; Œ. tenella, purple, 6in.; Œ. tetraptera, white and rose, fragrant, 12in.; Œ. triloba, yellow, scented in the evening, 6in.; Œ. vinosa, white and purple, 2ft. The annuals, known as Godetias, are strictly Œnotheras, and are treated as such in this work. Œ. Whitneyi (Syn. Godetia Whitneyi) is the parent of many pretty varieties of so-called Godetias. The species has rosy-red flowers blotched with crimson, and grows 12 to 18in. high.

Of this there are several varieties, known as Duchess of Albany, satiny white; Duke of York, carmine; Lady Albemarle, crimson; Satin Rose, rose, and so on. These grow about 1ft. high. The kind known as Godetia rubicunda (The Bride) is a blush-white variety of (E. amœna. The biennial species are Œ. biennis (Evening Primrose), yellow, fragrant, 3 to 4ft.; Œ. b. Lamarckiana, large, yellow, 4ft.; and Œ. acaulis (Syn. Œ. taraxacifolia), snow-white, trailing. The perennial species include the following: Œ. eximia (Syn. cæspitosa or marginata), large white flowers, deliciously scented, 6in.; Œ. fruticosa, golden-yellow, 1 to 2ft.; E. f. venusta, goldenyellow, 18in.; Œ. f. Youngi, deep golden yellow, 2ft.; Œ. linearis, yellow, trailing; Œ. missouriensis (Syn. macrocarpa), yellow, trailing; Œ. speciosa, white, fragrant, useful for cutting, 2ft.; Œ. glauca, pale yellow, I to 2ft.; Œ. g. Fraseri, deep yellow, ift. All the foregoing kinds flower in summer. The annual sorts should be sown in March or April where required to grow. Thin the seedlings out when an inch or so high to 6in. or 12in. apart. A sunny position and a rich soil are essential to get the plants to flower freely. Seeds may also be sown in the autumn to produce plants to flower in spring. The biennial kinds may be reared from seed sown in a similar way and at the same time. Once they are established they will flower freely and reproduce themselves naturally from seed. Suitable for shrubbery borders and wild gardens. With regard to the perennial species, Œ. cæspitosa, Œ. linearis, (E. missouriensis, and Œ. acaulis will do best on a sunny rockery in well-drained sandy loam, and Œ. fruticosa and Œ. speciosa in sunny borders. Plant in spring. The perennials may be increased by seeds sown in sandy soil in a cold frame, or in a sunny border outdoors in April; also by cuttings of young shoots in sandy soil in spring.

Omphalodes (Navel-wort).—Hardy annuals and perennials, members of the Forget-me-not order (Boraginaceæ). O. verna (Creeping Forget-me-not) is a perennial species with creeping shoots and blue flowers with a white throat, borne in May. A pretty little plant to grow on a rockery, or to naturalise in woodland borders. There is a white variety of it named alba. O. Luciliæ is another perennial species from Asia Minor. It grows 4 to 6in. high, and bears lilac-blue flowers in summer. A good rockery plant. The other species, O. linifolia, is a hardy annual from Portugal, growing ift. high, and bearing pure white flowers in summer. O. verna will grow in good ordinary soil, but O. Luciliæ requires a well-drained sandy loam. A sunny position is desirable. Plant in spring. The annual species must be reared from seeds sown where required to grow in April. Increase the perennials by seeds

sown in gentle heat in spring, afterwards planting out the seedlings; also by division in spring.

Ononis (Rest Harrow).—Hardy perennials, belonging to the Pea family (Leguminosæ), and adapted for growing on banks or large dry rockeries. They will grow in almost any soil, and soon cover bare spots with dense foliage. Plant in autumn or spring. The most noteworthy kinds are: O. arvensis, pink or white, Britain, 1ft.; O. rotundifolia, pink, 18in., S. Europe; and O. fruticosa, purple, 2ft., S.W. Europe. Increased by seed sown outdoors in April; cuttings of ripened shoots in a cold frame in September; division of the roots in autumn or spring.

Onopordon (Cotton Thistle).—Hardy plants, with thistle-like foliage, belonging to the Daisy order (Compositæ). Mostly suitable for the wild garden or large shrubbery borders, or for sub-tropical bedding. The plants have whitish woolly stems and finely-cut leaves. O. Acanthium is the well-known Scotch Thistle, with woolly foliage and a tall branching habit, height 5ft.; a hardy perennial O. arabicum has downy foliage and grows 8 to 10ft. high; native of S. Europe and a biennial. O. illyricum, a native of S. Europe, has very spiny foliage and grows 6ft. high; also a biennial. There are several others, but the foregoing are the best. Sow seeds in the open border in April, and when the seedlings are well up thin them out to 3 or 4ft. apart.

Onosma (Golden Drop).—There are several species of this genus of Borage-worts (Boraginaceæ), but the only one of any note is O. taurica (Golden Drop). This is a perennial, a native of the Caucasus, and bears golden-yellow, tubular, drooping flowers on one-sided spikes in summer. The flowers are almond-scented. It grows 6in. high. This plant will succeed best on a sunny rockery in a well-drained, sandy loam, mixed freely with grit and small pieces of sandstone. Plant in spring. Increased by seeds sown in sandy soil in a cold frame in spring; also by cuttings inserted in gritty soil in small pots in a cold frame during summer.

ophiopogon (Snake's Beard).—Hardy herbaceous perennials, of no striking beauty, belonging to the Nat. Ord. Hæmodoraceæ. The following species are suitable for grouping in shrubbery borders where other flowers fail to thrive: O. jaburan, growing a foot or so high, and bearing lilac-tinted flowers on slender spikes in July. O. japonicus grows ift. high, has narrow, arching leaves, and lilac blooms in summer. O. spicatus grows ift. high and bears dainty spikes of lilac flowers. There are pretty variegated forms of O. jaburan and

O. japonica, but they are too tender to survive the winter outdoors. O. spicatus is now placed in another genus, and is known as Liriope spicata. They may be planted out in May in partially shady spots, where their striped creamy or yellowish-white foliage will show to good effect. Grow in ordinary soil and plant in autumn or spring. Increased by division.

Opuntia (Prickly Fig).—Succulent-leaved plants, a few of which only are hardy enough to grow outdoors. They have flattened, leaf-like stems superimposed one on the other and They are very quaint and liberally furnished with spines. curious in shape. The few hardy species grown are: O. vulgaris, stems prostrate and spreading, flowers yellow; O. Raffinesquii, stems spreading, flowers sulphur-yellow and freely produced; O. brachyartha, stems more or less round and shortjointed, very spiny, flowers yellow; O. missouriensis, stems prostrate and spreading, flowers yellow, tinted rose. These will succeed outdoors on a sunny, sheltered rockery in a welldrained dryish soil, freely mixed with small stones and lumps of old mortar. Small stones should also be laid on the surface to support the stems and protect them from slugs. Plant in spring. Increased by cuttings of the stems in a greenhouse.

Orobus (Bitter Vetch).—Hardy perennials, belonging to the Pea order (Leguminosæ), and flowering chiefly in spring and early summer. Modern botanists are of opinion that the species of this genus should be included in the genus Lathyrus. The ones named below are suitable for mixed sunny borders, margins of shrubberies, or rough rockeries. Grow in ordinary soil and plant in autumn. The most interesting and beautiful species is O. vernus (Spring Bilbao Vetch). It is a native of S. Europe, grows 18in. high, and bears purple or bluish redveined flowers in April. Alba is a pretty white variety; Cyaneus, a blue or greenish-blue form; and flore pleno, a double kind. Other less grown species are: O. variegatus, purple and blue, 1ft.; and O. aurantius, yellow, 1 to 2ft., June. Increased by seeds sown outdoors in April, also division of the roots in March.

Ostrowskia (Oriental Bellflower).—O. magnifica is a hardy perennial, belonging to the Harebell family (Campanulaceæ). It is a native of Eastern Bokhara, grows 4ft. or more high, and forms a very handsome plant when well grown and laden with its large white and lilac-tinted, bell-shaped flowers in July. The roots are long and carrot-like, consequently to grow the plant properly, the soil must be dug fully 3ft. deep before planting. The soil it prefers is a deep sandy loam. The best position for it is a warm sheltered corner of a well-

drained border. Plant in spring, and at same time handle the roots carcfully, as they are very brittle. Increased by seeds sown in sandy soil in a cold frame in spring, then grow on in pots till the following spring, when plant out. Seedlings do not flower till four years old.

Ourisia.—O. coccinea is a dwarf trailing perennial, bearing clusters of brilliant scarlet, tubular, drooping flowers in summer. A native of the Chilian Andes, and a member of the Foxglove order (Scrophulariaceæ). This handsome plant requires a little care in its cultivation. It should be grown in sandy peat in a moist, shady position on a rockery. Some porous stone should be placed near it for the shoots to trail over. It will also do well with other peat-loving plants in a bog garden. Plant in spring. Increased by division in March.

Oxalis (Wood Sorrel).—Hardy annuals or perennials, of easy culture, belonging to the Geranium order (Geraniaceæ). O. Acetosella is the Common Wood Sorrel of our moist, shady woods. It forms a dense carpet of pale green downy foliage, and bears white, purple-veined flowers in summer. A good plant to naturalise in woodland gardens or under trees. O. corniculata rubra is a native annual or biennial, with crimson brown foliage and bright vellow flowers. This plant is sometimes used for carpet bedding, also for covering bare, sunny banks and spots. It spreads very rapidly. O. purpurata (Syn. O. Bowei) is bulbous-rooted, a native of S. Africa, grows 6in. high, and bears rosy-red flowers in summer. Requires to be grown in sandy, well-drained soils in a sunny border. Often used as an edging to flower beds. O. luteola is another bulbous-rooted species from S. Africa, bearing creamy-vellow flowers in summer. Other bulbous species are O. tetraphylla (Syn. O. Deppei), purplish-violet, a native of Mexico; and O. variabilis, purple, lilac, white or yellow, S. Africa. These require the same treatment as O. Bowei. Of other species, (). floribunda, a Chilian species, bearing rosy flowers; and O. lasiandra, a Mexican species, with crimson flowers, are very pretty kinds. The two latter are suitable for sunny rockeries or small borders. Grow in sandy soil and plant in spring. The bulbous kinds require to be planted three to four inches deep. All the oxalises are readily increased by seeds, the British ones by sowing outdoors in April, and the others in gentle heat in spring. Also increased by division or offsets in spring.

Oxytropis.—Pretty pea-flowered plants of dwarf stature and suitable for rockery culture, or on dry banks. Members

of the Pea order (Leguminosæ). They will thrive in ordinary soil in sunny positions, and may be planted in autumn or spring. Easily increased by seeds sown outdoors in April, or division of the roots in spring. The few species grown in gardens are: O. pyrenaica, sky-blue, summer, 6in., Pyrenees; O. campestris, creamy-white and purple, July, 4in., Scotch mountains; and O. uralensis, purple, summer, 6in., Scotland and Europe.

Pæonia (Pæony).—The pæony, or peony of our fore-fathers, is one of the oldest of our cultivated garden flowers. Botanical historians tell us that the plant derives its name from Pæon, a physician, and erstwhile disciple of Æsculapius, the god of healing The story goes that Pæon cured Pluto of a wound received from Hercules, and when this fact became known to Æsculapius it aroused feelings of jealousy within his breast to such an extent that he secretly killed Pæon. Pluto, out of gratitude to Pæon for saving his life, determined to perpetuate the latter's memory for all time by changing him into a flower, henceforth to be known as the pæony. Botanically, the flower belongs to the Buttercup order (Ranunculaceæ).

There are two distinct sections of pæonies—the herbaceous and the tree or moutan. The former are fleshy-rooted perennials which die down to the ground in autumn and put forth new leaves in spring. The latter are more or less hard-wooded; that is, they have woody stems which live year after year, and cast off their leaves in autumn. These are dealt with in the

Hardy Tree and Shrub section.

Of the herbaceous pæonies there are several species. -P. corallina—is reputed to be a native of England. reality, however, it is not indigenous to this country, but is really a native of Southern Europe, the Caucasus, and the Himalayas. P. officinalis is a European species, a native of the Alps, and it is from this and P. albiflora, a native of Siberia, that the present race of garden varieties of the pæony has really sprung. Both the last-mentioned species were introduced into England in 1548. Several other species are in cultivation, but, with the exception of P. tenuifolia, a fineleaved kind, we do not propose to mention these. Pæonia officinalis is known as the Double Crimson Pæony, and P. albiflora as the White Pæony. The latter is very fragrant, and it is owing to the intercrossing of this species with the former that we obtain the delicious perfume which distinguishes many of the present-day varieties.

With so infinite a variety of colours, and the fact of the herbaceous paeony being so perfectly hardy and so absolutely easy to grow, it is a source of wonderment to us that these

beautiful flowers are not grown more than they are in English gardens. Even the smallest of gardens cannot be said to be florally complete without its clump of pæonies. It matters little whether the garden be situate in town, suburbs, or country, the herbaceous pæony will not fail to make itself at home and yield a glorious wealth of blossom during May, June, and July, if it be only accorded fair treatment. It is par excellence the flower for amateur gardeners to cultivate. They have only to plant judiciously at first and then the pæony will go on, prosper and thrive for a much longer period than any other hardy perennial. It is one of those easy-going plants that abhors interference in the matter of frequent disturbance. Leave it alone and merely give an annual mulching of good fat manure, and an occasional dose of water in very dry weather, then it will flourish and

"Undaunted to the sunbeams spread Her flame-like rays and mantle red."

In sun or in shade we have always found the pæony to do well. It loves a deep rich soil and abhors a dry hungry one. Therefore, the fortunate possessor of the former need not do more than dig deeply and add a fair quantity of well decomposed manure to ensure success. The dry and hungry soil may easily be improved by the addition of a little clay or loam and some good fat cow manure before planting, and further success insured by giving a good thick mulch of manure every spring. As to the hardiness of the herbaceous pæony there can be no question; it is as hardy as the commonest perennial weed.

In gardens of fairly large extent the herbaceous pæony should always be grown on an extensive scale—in bold masses in the herbaceous border, in beds by themselves, in large groups in the shrubbery, and in clumps on the lawn. There is no other plant that will make such a magnificent display of colour, or give so much satisfaction in return for the trouble

involved in its cultivation.

In the grouping of pæonies it is necessary to remember that they succeed best when the plants are set well apart, and three feet should be the least distance allowed from plant to plant. This affords scope for blending other plants with them. To illustrate what may be done in that way we will describe a bed that was much admired. In the same bed were golden daffodils, which were admirably set off by the dark red stems and leaves of the pæonies. On each clump of the latter were strewn a handful of bulbs of the pretty little dwarf squill, Scilla sibirica, which grew and flowered well, deriving, also, additional beauty from its setting, and did not interfere in the

slightest degree with the growth of the legitimate occupants of the group. When the daffodils, which were planted deeply, had faded, late-struck cuttings of heliotrope were planted over them, and filled the space left vacant, the pæony leaves being held up lightly, and without formal tying, by a few twiggy growths taken off the tops of pea sticks, and in this position they were allowed to decay naturally, for one of the things the pæony grower must learn is that the leaves must not be cut away until they have actually ripened, for they are necessary to the proper completion of growth in the crowns which are to supply the growth and flowers of next year. Other plants that may be happily combined with pæonies are lilies of many kinds, gladioli, Lobelia cardinalis, seedling delphiniums, and many annual and perennial plants, choosing those especially which are not great robbers of the soil.

Another way of growing pæonies is in rough grass. Holes should be taken out and filled with good soil, and the grass not allowed to grow close to the plants for the first year, after which an annual clearing round the collar will be sufficient to enable the plants to hold their own with any native

herbage that may appear.

The planting of herbaceous Pæonies should be performed between September and April. As a rule, the plants do not flower much the first year, and therefore those who plant pæonies for the first time must not be disappointed if they fail to yield flowers the first year. It will really be the second or third year before they will reward the planter fully with abundance of flowers.

The herbaceous pæonies are propagated by division of the roots in March or April, also by seeds. The amateur gardener will do well, however, not to attempt the latter mode of propagation, and to do as little of the former as possible. It is infinitely better to allow the plants to grow into large specimens, and to purchase young plants of up-to-date sorts, if more are required. We know from experience that hundreds of fine pæonies are ruined annually by amateurs who cannot resist lifting, dividing, and replanting the roots every two or three years.

Now about varieties. There are, as we have previously remarked, hundreds of them, ranging in price from a guinea to about ninepence each. The higher-priced are the latest and best varieties, such as an ardent cultivator would delight to have in his garden. The lower-priced are not necessarily inferior varieties, but, being older and existing in larger quantities, the florist is able to dispose of them at popular prices. Space will not permit us to give a full list of the many excellent varieties in commerce. All we can do is to

give a brief selection, and if a greater variety be needed the reader must refer to the catalogues issued by specialists.

Hybrid Double Chinese Pæonies.—A. J. Hunter, rose; Coronation, light pink and creamy flesh; Dorothy Daniels, primrose, pink and white; Dr. Bonavia, pink; Ella Christine Kelway, soft lavender; Geraldine, pink, with creamy-white centre; Gerald Stubbs, rosy-carmine; Gravetye, flesh; Joan Seaton, cherry-rose; Lady Alexandra Duff, French white; Lady Beresford, soft blush pink; Lady Curzon, white, cream and blush; Limosel, lilac-rose; Mrs. Gwyn Lewis, white; Duchess of Somerset, delicate rose; Grandeur, lilac-rose; Kelway's Queen, flesh pink; Lady Carrington, flesh; Marchioness of Lansdowne, flesh white; Maria Kelway, blush; Mountebank, pink and lemon; Mrs. George Bunyard, bright rose; Mrs. Stubbs, flesh and white; Duchesse de Nemours, white and primrose; Gloire de Patrie, rose and white. All the foregoing are deliciously scented and exquisitely beautiful varieties.

HYBRID SINGLE-FLOWERED CHINESE PÆONIES.-- The following single varieties are exceptionally beautiful and showy, either for garden decoration or for cutting for indoor decoration. The colours are charmingly set off by the bunch of golden stamens in the centre of each flower: Austen Chamberlain, crimson; Mrs. Earl, rose; Countess Cadogan, flesh; Duchess of Sutherland, flesh pink; Frank Bramley, rubypurple; Heart's Desire, pink and peach; Ideality, deep rose; Kitty Wardell, rosy-lilac; Lady Helen Vincent, white and flesh; Lady Jeune, blush white; Lord Annaly, crimson; Miss Ida Chamberlain, light rose; Modesty, blush pink; Mrs. Templeman, rosy pink; Mrs. Vernon Harcourt, flesh; Philip H. Miller, ruby-madder; Purity, white; Stanley, maroon-crimson; The King, carmine-madder; The Lady, rosy-lilac; The Oueen, white and blush; T. W. Sanders, rich purple; Dorothy, delicate pink; Pride, rich crimson; and Emily, bright pink.

MAY-FLOWERING PÆONIES.—The following are very hardy and suitable for growing in woodland borders, wild garden, or growing in bold groups on the turf: Abietiana Andersoni, purple-crimson, single; Decora Miss Jekyll, crimson, single; officinalis alba plena, white, double; officinalis anemone flora, blood-crimson and maroon, single; officialis rubra plena, rich crimson, double; Broteri, crimson; peregrina Blushing Maid, blush-pink; tenuifolia rosea, blush-rose, single; and tenui-

folia, crimson.

IMPERIAL PÆONIES.—A new race of single or semi double pæonies of great charm and beauty. The flowers have shell-like guard petals of goblet shape, filled to the rim with golden, cream, or white petaloids. The colours are of pleasing artistic tints and are most beautiful. This new type has been

raised by Messrs. Kelway and Son, of Langport. The prettiest of the varieties introduced so far are: British Empire, rose, golden petaloids; King of England, ruby-madder, centre petals gold striped crimson; Lady Cecila Rose, pure white, golden petaloids; Lady of Grace, white splashed with crimson; Her Grace, light pink, yellow petaloids; and Meteor Flight, light pink.

Papaver (Poppy).—Hardy annuals, biennials or perennials, belonging to the Nat. Ord. Papaveraceæ. The annual species include the well known Shirley Poppy, Opium Poppy, and its numerous strains. The Shirley Poppy is a selected form of the Corn Poppy (P. Rhœas), and owes its existence to the efforts of the Rev. W. Wilks, vicar of Shirley, and Secretary to the Royal Horticultural Society. The plants grow 2 to 21ft. high, and bear single flowers of very pretty and diverse shades of colour, pink and salmon tints predominating. This strain is an effective one for massing in beds or borders and for yielding flowers for cutting. For the latter purpose the flowers should be gathered early in the morning in a half-developed condition. Other beautiful strains of the Corn Poppy (P. Rheas) are the Carnation Poppy, various colours, petals fringed, double, 21ft.; Ranunculus-flowered Poppy, various colours, double, 2ft.; French Poppies, similar to the last. The Opium Poppy (P. somniferum) is the parent of the strain known as the Danebrog, scarlet, four white blotches, 21ft.; White Swan, pure white, double, 2ft.; and Pæonyflowered Poppy, double, various colours, 21ft. Then there are several pretty species of other annual, single-flowered poppies, as P. lævigatum, deep scarlet, spotted black and edged with white; P. arenarium, crimson, black blotch, gin.; P. pavonium (Peacock Poppy), scarlet with black zone, 18in.; and Tulip Poppy (P. glaucum), crimson scarlet, 18in. In seed lists a number of other strains of single or double poppies will be found described. All the foregoing are best grown in bold masses in beds or borders. Sow the seed thinly in April, and thin the seedlings out to 6 or 8in, apart to allow the plants to make a sturdy growth. Poppies do not transplant well. In the perennial section the Iceland Poppy (P. nudicaule)

In the perennial section the Iceland Poppy (P. nudicaule) and the Oriental Poppy (P. orientale) are the two most important species. The former, although a perennial, is best grown as an annual or a biennial. In some districts plants continue to thrive for years, while in others they invariably die in winter. As they are easily reared from seed, sown thinly in April where required to grow, and afterwards thinned out to 6in apart, it is not a difficult matter to keep up a supply of plants. Or seeds may be sown in August in shallow pans or boxes filled with fibrous loam three parts, leaf-mould

one part, and silver sand half a part, the whole being sifted fine. Sow the seeds thinly and cover slightly with fine mould, then place in a shady cold frame. When the seedlings can be handled, transplant them singly into 2½in, pots in similar soil, or 3in. apart in shallow boxes, winter in the cold frame and plant out in April. Seeds may also be sown outdoors in August in mild districts, and the seedlings thinned out later to 6in. apart. In either case the seedlings will flower the first summer. The Iceland Poppy grows about ift, high, and bears orange-yellow or white flowers freely in summer. flowers are highly prized for cutting. The Oriental Poppy is a true perennial, grows 2 to 3ft. high, and bears large single crimson flowers blotched with black in May and June. Bracteatum is a form of it, with deep blood-crimson flowers blotched with black. It is a more robust grower than the species. There are now quite a score of other varieties of this poppy with flowers of pink, salmon, rose and orange shades of colours. Here are a few of them: Duchess, soft flesh, shaded salmon-pink; Masterpiece, salmon-pink, tinged mauve; Princess of Wales, sating grey shot with pink; Princess Victoria Louise, soft salmon-rose; Albion, silvery-flesh, shaded rosylavender; as well as numerous crimson and scarlet varieties. These plants are showy subjects for the mixed border or for grouping on lawns. They will grow in any good, ordinary, well-drained soil and sunny position. Easily reared from seed as advised for the Iceland Poppy, or by division of the roots in March. P. alpinum (Alpine Poppy) is a dwarf species, growing 6in. high, and bearing yellow, salmon, rosy, orange, or white flowers in summer. It is best grown on a sunny rockery in well-drained sandy loam. Should be raised from seeds annually as advised for Iceland Poppies. P. pilosum is a graceful species, bearing orange flowers in summer, and growing 2ft. high. Grow in a mixed border, and increase by seeds or division. P. rupifragum (Spanish Poppy) grows 18in. high, and bears pretty terra-cotta flowers freely in summer which are invaluable for cutting. P. ruporiens is a hybrid between the latter and P. orientale, grows 2ft. high, and bears cerise-scarlet flowers in profusion in summer, which are useful for cutting. Both are increased by seeds.

Paradisea (St. Bruno's Lily).—P. Liliastrum, better known as Anthericum Liliastrum, is a charming hardy perennial, belonging to the Lily order (Liliaceæ), and a native of the Alps. It has narrow, grassy foliage, and bears its pure white, lily-like, fragrant flowers on slender spikes in June and July. It is perfectly hardy, and soon grows into a large clump in rich soil in a partially shady or sunny border. Major is a

superior variety yielding larger flowers than the species. Plant in autumn or March. Increased by division in March; also by seeds as advised for Anthericum.

Parochetus (Shamrock Pea).—P. communis is a Himalayan perennial, with creeping stems, clover-like leaves and blue, pea-like flowers. It belongs to the Pea order (Leguminosæ), and is suitable for growing on warm rockeries in well-drained, sandy loam. Being somewhat tender it is only adapted for outdoor culture in the southern parts of the country. Plant in spring. Increased by division of the rooted stems in March.

Pentstemon (Bearded Tongue).—Showy hardy perennials, belonging to the Foxglove order (Scrophulariaceæ). The race of Pentstemons grown in gardens are hybrids, and very attractive plants. They exist in a great variety of colours, are easily grown, and well adapted for growing in beds or massing in sunny borders. Varieties are to be obtained bearing special names from florists, but a very good collection of colours may be obtained from a packet of mixed seed sown in heat in March, and the seedlings grown on in heat till May, then hardened off and planted out. These seedlings will flower in August and onwards, when the best kinds may be selected and cuttings struck from them in a cold frame, these being planted out in April. Except on heavy, cold soils the old plants will survive the winter, but the best results are always obtained by rearing fresh plants from cuttings yearly. Pentstemons require a rich generous soil and to be planted out at least a foot apart to form strong plants. fork in plenty of rotten manure before planting. several pretty species of Pentstemons worthy of a place in the mixed border. The best of them are: P. azureus, blue and purple, Aug., 1ft., California: P. barbotus (Syn. Chelone barbata), carmine, summer, 3ft., Mexico; P. b. alba, white; P. b. carneus, flesh; P. b. Torrevi, scarlet; P. cobæa, purple, yellow and creamy-white, Sept., 2ft., Texas; P. Hartwegii, scarlet, summer, 3ft., Mexico; P. glaber, blue, summer, 1ft.; and P. ovatus, blue or rosy-purple, summer, 4ft. P. Cobæa is a somewhat tender species, and can only be successfully grown outdoors in the south. The others will succeed in sunny, welldrained borders in a rich ordinary soil, enriched with leafmould and decayed manure. Plant in autumn or spring. Increase by seeds, cuttings, and division.

Petasites (Winter Heliotrope).—P. fragrans is a hardy perennial, which bears racemes of pale lilac, fragrant flowers in January and February, and grows about a foot high. It belongs to the Daisy order. This plant is suitable for growing

in shrubbery or woodland borders, or in rough corners of the garden. It will thrive in ordinary soil and soon spread into a large mass. Plant in autumn. Increased by division.

Phacelia.—A genus of hardy annuals, belonging to the Nemophila order (Hydrophyllaceæ). Few of them are worth growing except in wild gardens or shrubbery borders. The most attractive are: P. campanularia, blue, 9in.; P. Parryi, violet-blue, 9in.; P. tanacetifolia, pale violet, 2ft., a useful bee plant; and P. Whitlavia (Syn. Whitlavia grandiflora), rich blue, Sept., 1ft., and P. Whitlavia alba, white. Sow seeds in April where required to grow and thin out later to a foot apart. Natives of California and summer flowering.

Phlomis (Jerusalem Sage).—Hardy shrubby and herbaceous perennials, belonging to the Lavender order (Labiatæ). The following species are handsome plants for mixed sunny borders: P. fruticosa, a shrubby species, with grey downy foliage and rich yellow flowers borne in whorls in June and July; height 3ft.; native S. Europe. P. herba-venti, a S. European species, growing 2ft. high, and bearing purplishviolet downy flowers from July to October. P. viscosa, a native of Syria, and bearing yellow flowers in summer; height 3ft. The last two are herbaceous. Grow in light sandy or ordinary soil in sunny borders and plant in autumn or spring. Increased by seeds sown outdoors in April; P. fruticosa by cuttings in cold frames in summer; herbaceous ones by division in autumn or spring.

Phlox.—Half-hardy annuals and hardy herbaceous and evergreen perennials, belonging to the Nat. Ord. Polemoniaceæ), and natives of America. The only annual species is P. Drummondii. Of this beautiful, flowering and showy half-hardy annual there are many lovely varieties or strains, with flowers ranging through all shades of crimson, scarlet, pink, white, yellow and salmon. A charming race of plant for grouping in borders or massing in beds. They vary from gin. to 18in. in height, and bear single, round, or fringed, or pointed petals; there are also double varieties. Quite a number of distinct varieties or strains will be found in trade lists, the best perhaps being the grandiflora strain. They are easily reared from seed sown on a hot-bed, or in shallow boxes of light soil in a warm greenhouse in March. When the seedlings have formed their third leaf, carefully transplant them 2 to 3in. apart in boxes, grow on in heat till the beginning of May, then harden off and plant out at the end of May. To ensure good bushy, freeflowering plants, pinch out the points of the main shoots when 3in. high. These phloxes require a rich soil and a sunny

position to do well, and they should be planted 8 to 12in. apart. On light soils mulch with rotten manure after planting, and see they have plenty of water in dry weather, with an occasional application of weak liquid manure. Although best reared in heat, very good results may be obtained by sowing the seeds outdoors in April, and afterwards thinning out the

seedlings.

The herbaceous perennials consist of two groups, one known as the early or summer-flowering type, and the other late or autumn-flowering section. The former are derived from P. suffruticosa, and flower in June and July. of bushy habit and free-flowering. The late-flowering type are derived from crosses between P. paniculata and P. maculata, are vigorous growers and free bloomers, flowering from July to October. Really they are superior in beauty to the early-flowering type, and their value is greatly enhanced on account of flowering late in the season. Both sections thrive best in partial shade, and require a deep, rich loamy soil, welldrained. Before planting, trench the soil 3ft. deep and mix plenty of well-rotted manure with it. Heavy soils should have plenty of grit and leaf mould added also. In light, poor, hungry soils phloxes make a miserable stunted growth and yield weakly trusses of blossoms. Plant in autumn or early spring, 2ft. or so apart. In dry weather water copiously and feed occasionally with weak liquid manure. In April mulch the surface of the soil heavily with rotten manure. Directly the flowers fade remove the spent blooms, then a second crop of flowers will be borne on the earlier-flowered plants. Each spring, as soon as the shoots are a few inches high, remove the weakest, then much stronger growth will be obtained as well as larger trusses of flowers. Some of the varieties may require to be supported by stakes. The following is a selection of the early-flowering varieties: Agnes, white, suffused crimson; Attraction, snowy white, crimson eve; Excellence, rosymagenta, crimson eye; Harry Veitch, creamy-white, pink eye; James Thompson, deep rose; Magnificence, rosy-pink, crimson eye; Mrs. Browning, rosy-pink; James Robertson, lilac, shaded purple; Isaac House, satiny pink; Shakespeare, magenta, edged white; Snowflake, pure white; and The Queen, soft pink. Late or autumn-flowering varieties: Talma, magenta; Madame Cornudet, pure white; Bacchante, rosy-carmine, purple eye; Coccinea, scarlet; Coquelicot, orange-scarlet and purple; Eclaireur, carmine, rosy-salmon centre; Faust, white, rosy eye; François de Neufchateau, grevish-rose, purple eye; Memphis, porcelain white, lake centre; Mozart, rosy-salmon, red centre; Pandore, carmine-lake, white centre; and Eugene Danzanvilliers; rosy-lilac, white centre.



EXAMPLE OF MASSING HARDY FLOWERS.

A group of Anemone alpina planted in a bold mass on the fringe of a shrubbery. See p. 55-



AN EXAMPLE OF MASSING HARDY PLANTS IN BORDERS.

Here is shown a bold group of Perennial Larkspurs (Delphiniums) massed in a border. In large

Next come the dwarf evergreen or alpine phloxes. These are exceedingly showy plants for the rockery or margins of borders. They only grow a few inches high, have trailing or creeping shoots, and flower profusely in late spring and early summer. When well established in good ordinary, well-drained soil and in a sunny position the plants form large tufts, trailing freely over stones, and are most effective when in blossom. The best known species are: P. amæna, rose, June, 6in.; P. divaricata, blue, May, 1ft.; P. divaricata alba, white; P. ovata, deep rose, May, 1ft.; P. procumbens, lilac-blue, June, 6in.; P. reptans, rosy-purple, May, 6in.; P. Stellaria, silvery grey or white, June, 6in.; and P. subulata (Moss Pink), pinkish purple or white, May, 6in. Of the latter there are many lovely varieties, namely: Aldboroughensis, rose; annulata, blush, with purple ring; atro-lilacina, lilac; atropurpurea, purple, rose and crimson; compacta, rose; Fairy, iilac; frondosa, pink; G. F. Wilson, mauve; grandiflora, pink, blotched with crimson; Little Dot, white, blue centre; Nelsoni, white; pallida, rose and lilac; setacea, rosy-pink, 6in., May; rosea major, rose, crimson eye; and Vivid, rose, carmine centre. These are best planted in spring in gritty sandy loam. Damp in winter is fatal to them, so grow in a position fairly dry and sunny.

As regards propagation. P. Drummondii, in addition to being reared from seed, may also be increased by cuttings in autumn, but this method is only advised in the case of very choice varieties. The herbaceous kinds may be increased by seed grown in heat in March, and the seedlings planted out in May; by cuttings of young shoots 3in. long inserted in sandy soil in a cold frame in spring; also by division of the plant in April. The alpine kinds are readily propagated by cuttings of young shoots inserted in sandy soil in a cold shady frame in July; or by covering the trailing shoots with sandy soil in summer, and removing the rooted shoots the following year.

Phuopsis (Crosswort).—P. stylosa is a pretty dwarf trailing perennial, belonging to the Madder family (Rubiaceæ). It is a native of Persia, and bears rose or pink blossoms in terminal heads during summer. The leaves are arranged in whorls on stems a foot long. A variety of this, Coccinea, has deep red or scarlet flowers. These plants will thrive in any soil except heavy clay, and are suitable for growing on large rockeries, banks, or in borders. On sandy or chalky soils they are quite at home. Plant in autumn or spring. Increased by seeds sown outdoors in April, also by division in autumn. This plant is also known as Crucinella stylosa.

Phygelius (Cape Figwort).—P. capensis, the only species grown, is a showy hardy perennial, growing 3 to 4ft.

high, and bearing brilliant scarlet, tubular-shaped flowers in long racemes during the summer. It is a native of S. Africa and belongs to the Foxglove order (Scrophulariaceæ). A very distinct and attractive plant to grow in sunny borders in a well-drained, sandy, loamy soil. Not suitable for cold districts or heavy soils. Plant in October or March. Increased by seeds sown in sandy soil in gentle heat in March, planting out the seedlings in May; also by division of the roots in April, and cuttings of shoots in a cold frame in July.

Physalis (Winter Cherry).—A genus of hardy peren nials, grown for the sake of their attractively-coloured and curiously-formed balloon-like calyces, enclosing red berries. The calyces are beautifully veined and of a bright red colour in autumn. When grown in a mass these showy calvees or bladders are very attractive in autumn, and if the stems are cut in autumn and placed in vases with dried grasses they make a very pretty winter decoration for rooms. The stems and calyces are also much sought after for skeletonising purposes. They require to be grown in a warm border in light sandy loam or good ordinary soil. Plant in spring. The only two kinds grown are: P. Alkekengi, bearing orange-red berries in red calyces, and growing 18in. high, a native of S. Europe; and P. Franchetti, a more robust grower than the last species, with coral-red calyces measuring 2 to 3in. long and 6 to 8in. in circumference. The latter is a very handsome species, is quite hardy, and its calvees are greatly prized for cutting for winter decoration. A native of Japan, and growing 2ft. high. The Physalises belong to the Nightshade order (Solanaceæ). Readily increased by seeds sown outdoors in April; by cuttings of shoots inserted in moist sandy soil in a shady border in summer; division of the roots in autumn or spring.

Physostegia (False Dragon's Head).—Hardy herbaceous perennials, belonging to the Lavender order (Labiatæ). The only species worth growing is P. virginiana. This grows 18in. to 2ft. high, and bears pink flowers in erect spikes or racemes during the summer. Alba is a white variety growing 18in. high, and speciosa a pink form growing 4 to 5ft. high. The species and its white variety are suitable for mixed sunny borders, and speciosa for the shrubbery border or wild garden. Ordinary soil will suit them all. Plant in autumn or spring. Increased by seeds sown outdoors in April, or division in autumn or spring.

Phyteuma (Horned Rampion).—A genus of hardy perennials, belonging to the Harebell order (Campanulaceæ),

bearing their flowers in curious spiky heads. The prettiest species are P. Sieberi, a native of the Pyrenees, bearing blue flowers from May to August, and growing 6 to 8in. high; P. orbiculare, a native species, growing 6 to 12in. high, and bearing deep blue flowers in July and August; P. Micheli, a S. European species, growing 1 to 2ft. high, and bearing cark blue flowers in summer. P. Charmelii 1s a synonym of P. Sieberi, referred to above. There are others, but they are of botanical interest only. All do best in a mixture of sandy peat, loam, leaf-mould and sand on a sunny rockery or the margin of a warm border. Plant in March or April. Increased by seeds sown outdoors in April, also division in April.

Phytolacca (Virginian Poke).—Stately hardy perennials, belonging to the Nat. Ord. Phytolaccaceæ, and natives of N. America and India. Suitable only for the shrubbery or large mixed border or wild garden. P. decandra (Virginian Poke-weed) grows 5ft. high, forms a large bush, bears white flowers in summer, succeeded by blackberry-like purple berries borne in dense erect spike. The leaves are large, green, changing to purple in autumn. The roots are poisonous P. acinosa (Indian Poke) grows 3 to 4ft. high, has reddish stems, and black berries borne in more or less drooping spikes. Both species owe their only attractiveness to their berries in autumn. Grown in ordinary soil. Plant in autumn. Increased by seeds sown in a warm border in April, or in a frame; also by division in autumn.

Pinguicula (Butter-wort).—The Butter-worts are interesting little plants, belonging to the Nat. Ord. Lentibulariaceæ, and specially noteworthy from the fact that they belong to the insectivorous class of vegetation. Their leaves are hairy on the upper surface and covered with an unctuous matter of a greasy buttery nature which attracts insects. When the insects alight on the leaf and irritate the hairs, the edges roll over and imprison them. Apart from the foregoing facts, the flowers are also very pretty. The species worth growing are: P. alpina, native of Scotland, height 3in., flowers white with a vellow throat, May; P. grandiflora (Irish Butter-wort), native of Ireland, violet-blue, May to July, 3 to 6in.; P. lusitanica, native of Britain, lilac with yellow throat, summer, 6in.; P. lutea, a native of N. America, golden-yellow, summer, 3in.; P. vallisnerifolia, native of Spain, soft lilac or purple, summer, 6in.; P. vulgaris (Bog Violet), a native species, violet, May to July, 6in. The Butter-worts do best in the bog garden in moist peat and leaf-mould, or failing this in nooks of the rockery. P. alpina, grandiflora, and P. vallisnerifolia require a shady position; the others a sunny one. All need plenty

of moisture. Plant in spring. Increased by seeds sown in damp peat and leaf-mould, also by division in March or April.

Platycodon (Chinese Balloon-flower) .- A genus of Campanula-like perennials, belonging to the Harebell order (Campanulaceæ). P. grandiflorum, the only species, was formerly classed in the genus Campanula. It is a native of China and Japan, grows 6 to 18in. high, and bears large, purple bell-shaped flowers in July and August. The buds before they open are inflated like balloons. Album is a variety with white flowers; album plenum, semi-double flowering; and Mariesii, a deep blue variety growing 6 to oin, high. These plants require to be grown in light sandy loam on a dry border or sunny rockery. In heavy or damp soils they are sure to die in winter. The shoots are very brittle, consequently no attempt should be made to tie them to stakes. Plant in spring. Increased best by seeds sown in sandy soil in a cold frame in spring, and the seedlings afterwards planted out in boxes or pots, and kept growing in the frame till the following spring, then be planted out.

Platystemon (Californian Poppy).—The only species grown is P. californicus, a showy hardy annual, bearing sulphur-yellow poppy-like flowers in summer. It grows about a foot high and is of a trailing habit of growth. A showy annual to grow in beds or masses in the borders. Sow in April where required to grow and thin out the seedlings to a few inches apart later on. A native of California and a member of the Poppy order (Papaveraceæ).

Podophyllum (May Apple).—Hardy perennials, belonging to the Barberry order (Berberidaceæ), and adapted for growing in moist shady positions in the wild or woodland garden. There are two species. P. Emodi (Himalayan May Apple) has handsome leaves spotted with black and white cup-like flowers succeeded by coral-red berries; height 1ft. P. peltatum (American May Apple) grows 1ft. high, has large glossy green leaves, borne umbrella-like, and waxy white Christmas rose-like flowers succeeded by pale yellow berries. Both flower in May and the berries are edible and ripen in July. They prefer a peaty soil. Plant in autumn or spring and increase by seeds sown in sandy peat in a cold frame, also by division in April.

Polemonium (Jacob's Ladder; Greek Valerian).—Hardy perennials of free-flowering habit and more or less showy plants for mixed sunny borders. They belong to the Phlox order (Polemoniaceæ). The best known species is P. cœruleum (Jacob's Ladder), a native of moist woods and waterside

places in Britain. It has pinnate foliage, grows 12 to 18in. high, and bears pretty blue flowers with golden anthers in June and July. Album is a white variety; variegatum, a pretty form with golden and green foliage; Himalayan, a lilac-blue; Himalayan album, white; and Campanulatum, also lilac-blue, but with golden anthers. The other species are: P. confertum mellitum, creamy-white, 10in., native of the Rocky Mountains; P. flavum, yellow, Sept., 2ft., new Mexico; P. reptans, blue, April, 6in., N. America; P. humile (Syn. P. Richardsonii, pale blue, summer, 6in., Rocky Mountains. The last-named is a charming little plant to grow on a sunny rockery. The foregoing plants do best in light, well-drained ordinary soil. In damp or heavy soils they are apt to succumb in winter. Plant in autumn or spring. Increased by seeds sown outdoors in April; also by division in October or March.

Polygala (Milkwort).—The polygalas are shrubby or herbaceous perennials, belonging to the Nat. Ord. Polygalaceæ. The species named below are suitable for growing in peat and loam on a shady rockery. The most attractive species is P. Chamæbuxus (Bastard Box), a creeping shrubby plant, growing 6in., and bearing creamy or yellow purple-tipped, fragrant flowers in spring and early summer. Purpurea is a magentapurple form of it. P. paucifolia is a N. American species, growing 3in. high and bearing rosy-purple flowers in August. These may be planted in autumn or spring. Increased by seeds sown in peaty soil in a cold frame in spring, and the seedlings grown on till the following March, then planted out; also by cuttings in a cold frame in summer.

Polygonatum (Solomon's Seal).—Hardy perennials, with tuberous or fleshy roots, and members of the Lily order (Liliaceæ). The Common Solomon's Seal (P. multiflorum) is a widely-grown plant, thriving well in town, suburban and country gardens. It is a native species, with herbaceous arching stems 2 to 3ft. long, and furnished on each side with long narrow leaves and greenish-white drooping flowers borne in clusters in the axils of the leaves. A splendid plant to grow in moist shady borders, and especially suitable for mixing with vigorous growing ferns. There is a doubleflowered form named flore pleno; a silvery variegated one, named variegatum; and roseum, a rosy-flowered variety. There are several other species worthy of a place in larger gardens, namely, P. biflorum, a native of Canada, growing 2 to 3ft. high, and bearing greenish-white flowers in pairs; P. japonicum, a Japanese species, growing 2ft. high, and bearing white flowers tinted with purple; P. latifolium, a European species, with stems 4ft. long and greenish-white flowers; P.

officinale, a dwarf native species, which we have seen growing wild in the woods near Andover, Hants, growing 6 to 10in. high, and bearing solitary greenish-white flowers; P. oppositifolium, a Himalayan species, with stems 4ft. long and greenish-white flowers ribbed with red; P. punctatum, another Indian species, growing 2ft. high, and bearing greenish-white flowers dotted with lilac; P. roseum, a native of Siberia, 2 to 3ft., flowers rosy, borne in pairs; and P. verticillatum, with leaves borne in whorls and greenish flowers, a rare native species. All will succeed in ordinary rich and moist soil, and are best planted in autumn. The plants soon spread by means of their creeping root-stocks, and make a fine mass of elegant foliage. All flower in late spring and early summer. Easily increased by division of the roots in autumn or early spring.

Polygonum (Knotweed).—A genus of noble foliage or climbing perennials, belonging to the Rhubarb order (Polygonaceæ). Some of the species are adapted by their stately growth for growing on grass or in borders in the wild garden; some for growing on the margins of water; others for clothing pergolas and arches; and some for growing on the rockery. Those adapted for grouping on grass, or beautifying an ugly corner in a suburban garden are: P. cuspidatum (Syn. Sieboldi), a Japanese species, growing 8 to 10ft. high, and with large handsome leaves and creamy-white flowers borne in feathery panicles along the arching, branching stems; P. polystachum, another species with handsome foliage and stems 4 to 5ft. high, and pure white fragrant flowers, borne profusely in graceful sprays from September to November; and P. sachalinense, a native of the Sachalin Islands, with arching stems 10 to 12ft. long, a noble plant for grouping on grass. They will grow in shade and do well under trees, also by the sides of water. P. cuspidatum has creeping root-stocks, so should not be planted where they are likely to overcrowd other plants. P. affine (Syn. P. Brunonis) is a dwarf species from Nepal, growing 6 to 121n. high, with green leaves changing to bronzycrimson in autumn, and rosy flowers borne in dense spikes in September. A good plant for a moist border or margin of water. P. amplexicaule is a Himalayan species, growing to 3ft. high, and bearing rosy-red flowers in racemes in autumn. Requires similar cultivation to P. affine. P. compactum is similar to P. cuspidatum, but dwarfer, growing 2 to 4ft. high, with reddish stems and white flowers borne in summer. Suitable for the mixed, shady, moist border or for grouping on grass. P. vaccinifolium comes from the Himalayas, grows 6in. high, and bears bright rosy flowers in dense spikes in early autumn. Best suited for a moist rockery. very showy plant. Mention must be made of two pretty annual species, namely, P. capitatum, pink, 4in.; and P. orientale, rosy-purple, 3ft. The former is suitable for rockery and the latter for border culture. Sow seeds in April where required to grow.

Potentilla (Cinquefoil).—Hardy perennials of a showy character, and members of the Rose order (Rosaceæ). most showy plants of this genus are the lovely double-flowered forms obtained by crossing P. argyrophylla atrosanguinea with varieties of P. nepalensis. These grow about 18in, to 2ft. high, and bear double flowers of many rich shades of colour throughout the summer and autumn months. specially adapted for massing in beds or in sunny borders, and require a rich, well-drained soil. Plant in autumn or The following is a good representative dozen variéties. For a larger selection see trade lists: Congo, marooncrimson; Fantasie, scarlet, edged gold; Mont d'Or, canaryyellow; Mordorée, crimson, shaded gold; William Rollison, scarlet, shaded orange-yellow; Toussaint l'Ouverture, velvety crimson; Melpomene, yellow, shaded orange-scarlet; Panorama, yellow, striped purple; Vulcan, deep crimson; Feu-Follet, orange-scarlet, orange margin; Don Quixote, yellow, splashed scarlet; Marron d'Inde, maroon and yellow; Dyck, yellow, striped red. With regard to the species, the following are worthy of culture on sunny rockeries or the margins of borders: P. alba, white, single, spring and summer, 6in, Alps; P. alchemilloides, white, single, summer, 3in., Pyrences, P. alpestris, golden-yellow, summer, 6in., Britain; P. ambigua, yellow, sing'e, June, 6in., Himalayas; P. argyrophylla atrosanguinea, single, crimson, summer, 1ft.; P. hopwoodiana; salmon-apricot and rose, single, hybrid, June, 18in.; P. nepalensis, cherry, single, summer, 18in., Nepaul; P. recta, yellow, single, summer, 18in., Europe; P. reptans fl. pl., golden-yellow, double, summer, 6in.; P. rupestris, white, single, summer, 18in., S. Europe; and P. fruticosa, yellow, June, 2 to 4ft., a native shrub. The foregoing species will thrive in good ordinary, well-drained soil. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring; also by division in autumn or spring.

Pratia.—The Pratias are dwarf trailing perennials, belonging to the Harebell order (Campanulaceæ). The only species worthy of note here is P. angulata (Syn. Lobelia littoralis), a native of New Zealand. It grows about 2in. high, trails along the surface, and bears white lobelia-like flowers in summer, followed by violet-coloured berries. It requires to be grown in good ordinary soil on a sunny rockery, where its shoots can creep over stones. Plant in spring. Increased by division and seeds.

Primula (Primrose).—The Primula family is a very large one, embracing not only a very extensive number of species, but also several distinct groups of varieties, as the Auricula, Primrose and Polyanthus. Here the limits of our space will only permit us to deal with the genus in a very condensed form. We shall divide the family into four distinct groups and deal with each as concisely as is consistent with the imparting of useful information thereon. But before we proceed to do this we may mention that the Primulas about to be mentioned are all hardy perennials and belong to the

Primrose order (Primulaceæ).

Species.—Those we deem worthy of general cultivation are: P. Allionii, a pretty dwarf species from Mentone, with mauve flowers borne in April; rockery; sandy soil. P. alpina, a hybrid with violet-purple flowers borne in May; rockery; sandy P. altaica, a native of the Altai Mountains; flowers mauve with yellow eye; rockery; sandy loam. P. capitata, a lovely Himalayan species, with wrinkled foliage, violetpurple or blue flowers, borne in round heads in autumn; flower stems mealy; partially shaded rockery; moist loam. P. clusiana, a native of the Tyrol; flowers bright rose, borne in April and May, 6 to oin.; rockery; loamy soil. P. cortusoides, a native of Siberia; height 6 to 10in.; flowers rose, borne in June; sunny rockery or border; light, rich loam. P. denticulata, native of the Himalayas; height 8 to 12in.; flowers bright lilac, May to June; sunny tockery or border; rich, wellmanured loam. Cashmeriana, violet-purple, April and May; alba, white; and pulcherrima, dark lilac, are pretty varieties of it. P. elwesiana, native of Sikkim; flowers purple, June: partially shaded rockery; loam and leaf-mould. P. farinosa (Bird's Eye Primrose), a British species; flowers lilac with yellow eye, June and July; height 6in.; rockery; loam and peat, moist. P. floribunda, a Himalayan species; flowers golden-yellow, summer; height 4 to 8in.; rockery; ordinary P. Forbesii, native of China; flowers rosy-purple with orange-white eye, March to June; warm rockery; sandy loam and leaf-mould; hardy in mild districts only. P. glutinosa, native of the Tyrol; flowers, bluish-purple, June; rockery; sandy loam and peat, moist. P. grandis, native of the Caucasus; flowers yellow, summer; height oin.; rockery; loam and leaf-mould; P. involucrata, a native of the Himalayas; flowers creamy white, yellow centre, March to June; 6in.; moist border; loam and peat. P integrifolia, native of the Pyrenees; flowers rose, April to June; rockery; moist loam. P. japonica, a Japanese species; flowers crimson, June; height 1 to 2ft.; partially shady moist borders; deep, rich loam. Alba is a pretty white variety. P. latifolia, native of the

Pyrenees; flowers violet, fragrant, June; height 4 to 6in.; sunny rockery; sandy peat and loam. P. marginata, native of Switzerland; flowers lilac, April and May; height 2 to 4in.; rockery; moist sandy loam. P. minima; S. Europe; flowers rose or white, June; height 2in.; rockery; moist sandy loam. P. Parryi, native of Rocky Mountains; flowers purple, yellow centre, spring; height 6 to 12in.; shady rockery or bed; moist sandy loam and peat. P. pubescens, a hybrid; flowers rosycrimson, April; height 3 to 6in.; rockery; moist loam. Alba (Syn. P. nivalis) is a rare and pretty white variety of the latter. P. Purpurea, a native of Nepaul; flowers purple, March to June; height 6 to 8in.; sunny rockery or border; sandy loam and leaf-mould. P. rosea, a native of Kashmir; flowers rosy-carmine, yellow centre, spring; height 4 to 6in.; partially shady rockery or bed; moist loam and leaf-mould. P. Sieboldi (Syn. P. amena), native of Japan; flowers rose with white eve, April and May; height 6 to 12in.; partially shady bed; wellmanured sandy loam and leaf-mould. There are a large number of varieties of this species with flowers ranging through all shades of white, lavender, mauve, pink and crimson. A very beautiful class of hardy primulas. P. sikkimensis, a native of Sikkim; flowers pale yellow, drooping, fragrant, May and June; height 18in. to 2ft.; shady beds or margin of water; deep, moist peat and leaf-mould. P. spectabilis, Eastern Alps; flowers rosy-purple, July; height 3in.; sunny rockery; sandy loam and leaf-mould. P. Stuarti, N. India; flowers golden-yellow, summer; height o to 15in.; shady rockery or bed; moist sandy loam and leaf-mould. P. viscosa (Syn. P. villosa), a Pyrenean species; flowers rosypurple with white eye; spring; height 4in.; shady rockery; sandy loam, peat and leaf-mould. P. altaica, mentioned above, is, according to the Kew Hand-list, a variety of P. vulgaris, named Sibthorpii.

AURICULA (P. auricula).—The parent species of the plants known as Auriculas is a native of the Swiss Alps, grows 3in., and bears yellow flowers in April. The Auricula in general cultivation consists of two distinct types. There is the florist's Auricula, with green-edged, grey-edged, white-edged and self-coloured flowers, stems and leaves. These, however, are chiefly grown in pots for exhibition purposes, but they may also be grown in the garden. The other and far more beautiful type for garden culture is the Alpine Auricula. The varieties of this type are of freer growth, have no meal or paste on the flowers or the foliage, and the flowers are of two colours only, the centre being white or yellow, and the remainder of various shades of other colours. A wonderful variation of

colour may be obtained from seedlings raised from a mixed packet of a good strain of seed. The same remarks, too, apply to the show type. Sow the seeds in a mixture of sandy loam and leaf-mould in gentle heat, or in a cold frame, in spring. The seeds take a long time to germinate. When the seedlings have formed their third or fourth leaf carefully transplant them an inch or so apart in boxes and keep in the frame till the following spring. If the strain is a particularly choice one the seedlings may be grown in small pots instead of the boxes. Some of the seeds may not germinate for six months, and such seedlings invariably prove of superior quality to the earlier germinated ones, so every care should be taken of them. When ready for planting out prepare the site for their reception by digging in plenty of rotten cow manure and leaf-mould. Plant out 6in. apart. The more robust seedlings may be planted as edgings to borders in ordinary soil. Auriculas do best in partial shade. Every third year lift, divide and replant the plants.

POLYANTHUS.—This section of primulas has been gradually evolved from a hybrid primrose named P. variabilis, the result of a cross between the Cowslip and the Primrose. the Polyanthus you get the flowers of the Primrose borne on a cowslip-like umbel. Polyanthuses are divided into two or three classes. Thus in one, the Gold-laced, the blooms are margined or laced with gold, a stripe going from this down the centre of each petal to the eve, the rest of the petal being of another colour. These are the old-fashioned florists' polyanthus. Then there is the Giant or Fancy Polyanthus, a class of more robust habit, with large flowers, varying in colour from white and yellow to crimson, etc. These are popular garden flowers. Then we have another class called the Primrose Polyanthus, in which the flowers first form like those of the Primrose, then produce an umbel like the Fancy or Gold-laced classes. These also are variable in colour. In these and in Auriculas experts prefer the flowers with a "thrum-eyed" flower, i.e., one in which the anthers and not the stigma can be seen. The latter are called "pin-eved" flowers. Besides the classes mentioned there are several curious forms of Polyanthuses. The "Hose in-Hose" is one in the which the callyx is of the same form and colour as the corolla; and "Jack-in-the Green" is another form with crimson flowers resting on large, leafy, green bracts. The latter is also called Galligaskins or Pantaloons, Erin's Yellow is a yellow-flowered fragrant variety of the "Hose-in-Hose" polyanthus, and much used for bedding. Polyanthuses are excellent plants for spring bedding, and a charming variety of colours may be obtained from a mixed packet of seed of a good strain such as is sold by leading seedsmen. Seeds may be sown from May to August on a shady border outdoors, the seedlings being transplanted as soon as large enough to handle 4in. apart each way in a shady spot. Let them remain there till autumn, then plant in beds between bulbs or in masses in borders. Or seeds may be sown in gentle heat in March, the seedlings pricked off into boxes, gradually hardened oft and planted out in a reserve border till autumn. The plants require a rich moist soil to grow and flower freely. As soon as they have flowered, lift, divide and replant in reserve beds till autumn. Polyanthuses do best in partial shade.

PRIMROSE (Primula vulgaris) .- The Common Yellow Primrose of our banks and copses is often grown to a large extent in gardens, and a very pretty and showy plant it is. They may be naturalised on shady plants or in woodland gardens. If the seed be scattered about when ripe an abundant crop of seedlings will come up as a rule. Very beautiful, too, are the coloured varieties. A good strain of these will yield flowers of various tints, ranging from red, lilac, rose, mauve to a bluish-lilac shade. These coloured varieties have become very popular of late years for spring bedding, massing in borders, and naturalising in the grass and in woodland and wild gardens. When naturalised they freely reproduce themselves from seed, and form a brilliant mass of rich colour in spring. Besides the single kinds there are also a number of charming double-flowered varieties. The most striking varieties of the latter are Carnea plena, salmon-pink; Alba plena, white; Croussei, purplish-lilac, white edge; lilacina plena, lilac; lutea plena, golden yellow; purpurea plena, reddish-purple; sulphurea plena, sulphur; Cloth of Gold. lemon-vellow; platypetala plena, violet; and Crimson Velvet, There are also named varieties of the single kinds, but as these are not likely to remain so constant as the double we refrain from mentioning them in detail. The singles are easily reared from seed sown in pans or shallow boxes of light soil in a cold frame in spring, afterwards planting the seedlings out a few inches apart in a shady border, and finally transplanting into their flowering positions in autumn. above advice applies to choice sorts only. For ordinary purposes sow the seeds in May or June on a shady bed or border, lightly rake in the seeds, and keep the soil moist, and when the seedlings can be handled transplant them as advised for those raised in frames. The best of the single sorts, if grown in beds or borders, may be lifted after flowering, divided and replanted in a shady border to make large plants for flowering

the next season. The double sorts can only be increased by division in the manner just advised. They require a rich not too heavy soil, and partial shade to do well. Fork in plenty of well-rotted manure before planting. Once planted disturb the plants as little as possible unless it be desired to increase any special variety.

OXLIP (Primula elatior).—The Oxlip of our meads is sometimes grown in gardens. This is suposed to be a hybrid between the Primrose and the Cowslip. Anyway, it partakes of the characters of both. There is a curious form of it called Calycantha, with a leafy fringed calyx. Both may be grown

similarly to the Polyanthus.

All the species of primulas herein mentioned may be raised from seeds sown in light sandy soil in cold frames in spring, the seedlings, especially in the case of the species, being transplanted, when large enough to handle, into boxes or pans, and finally into small pots, until they are sufficiently strong to plant out permanently. They may also be increased by division of the roots after flowering.

Prunella (Self-heal).—A genus of hardy perennials, belonging to the Lavender order (Labiatæ). The plants are of dwarf growth and suitable only for carpeting bare moist spots in shady borders or woodland gardens. The only species worthy of note is P. grandiflora, a native of Europe. It grows 6in. high, and bears purple flowers in July and August. Alba is a pretty snowy-white variety; laciniata, a purpleflowered variety, with cut foliage; and Webbiana, a showy crimson-purple flowered form well worthy of culture. Plant in autumn or spring in ordinary medium, moist soil. Increased by division in autumn.

Pulmonaria (Lungwort).—Hardy perennials, with rough, green and white speckled foliage and blue or reddish flowers. They belong to the Borage order (Boraginaceæ). The species worthy of culture are P. angustifolia (Blue Cowslip), a native of Britain, growing 1ft. high, and bearing pink or blue flowers in early summer; P. saccharata, a native of Europe, growing 1ft. high, and bearing pink flowers; P. officinalis, a native species, bearing red or violet flowers, and growing 1ft. high. There is a white form of the latter called alba. These plants are suitable for massing or grouping in shady woodland or other border, or the ordinary mixed border. Ordinary soil. Plant in autumn or spring. Increased by division in spring; also by seeds sown outdoors in a shady border in April.

Pyrethrum (Feverfew).—The Pyrethrum is closely allied to the Chrysanthemum, and belongs to the same order (Compositæ). Modern authorities now include the Pyrethrums in the genus Chrysanthemum, but as they are better known under the former name we deal with them as such. The best known member of the genus is probably the "Golden Feather" (P. parthenium aureum), which is so largely used as an edging to summer beds. its varieties has golden foliage. The varieties are laciniatum, leaves fernlike; selaginoides, leaves mossy; and cristatum, leaves parsley-like. These plants are strictly biennials or perennials, but for garden purposes are usually treated as Sow the seeds in gentle heat in March, or in a cold frame, transplant the seedlings later into boxes, harden off in May and plant out at the end of the month. Where used for edging purposes all flowers should be promptly nipped off. Where a uniform edge is needed the ends of the stronger leaves may also be pinched off. Next in order of popularity come the "Coloured Marguerites," or single and double flowered varieties of P. coccineum. These are immensely popular for garden decoration and for yielding a plethora of flowers for cutting. The single varieties are exceedingly beautiful for indoor decoration, especially when arranged with grasses or gypsophila blossom. They last quite a fortnight in a cut state. The colours are of all shades except blue. These showy flowers will repay a little special cultural attention. The soil should be deeply dug and well enriched with rotten manure. Plant in spring in a sunny position, mulch the soil with rotten manure, and see the plants have plenty of water in dry weather. Directly the flowers fade cut the flower stems down to within a few inches of the soil, then the plants will flower again in autumn. These plants are best grown in masses in beds or borders, and in full sun. Easily raised from seeds sown in gentle heat in spring, the seedlings being afterwards grown on in boxes, and planted out in May; or in boxes in a cold frame in March. A very pretty assortment of colours may be obtained from a good strain of seed. Increased also by division of the roots in March. The following is a selection of the best singles and doubles. Singles: Gloire de Nancy, pink; Cervantes, rose; Excelsior, crimson; Hamlet, pink; James Kelway, scarlet; Jubilee, crimson; Mrs. Bruce Findlay, china pink; Princess Charlotte, crimson, Princess Marie, white; Princess of Wales, fleshy-pink; Wagstaff, rose; and Juliette, blush-white. Doubles: Alfred Kelway, crimson; Aphrodite, white; Empress Queen, blush-pink; J. M. Tweedy, crimson, tipped yellow; La Vestale, blush-white; Leonard

Kelway, rose; Perfection, rose-pink; Pericles, golden-yellow, creamy-pink guard petals; Queen Sophia, flesh-pink; Regulus, crimson; Solfatara, primrose-yellow; and Lady Kildare, buff. Other species of Pyrethrum grown in gardens are P. parthenium flore pleno, and its varieties, crispa, grandiflora and pyramidalis, all bearing double white flowers in summer and growing 2ft. high. P. uliginosum is now included in the genus Chrysanthemum, which see.

Pyrola (Winter Green).—Hardy evergreen perennials, belonging to the Heath order (Ericaceæ). They have pear-like foliage and fragrant flowers. Adapted for shady woodland borders or rockeries. They require a light soil in which leaf-mould and peat predominates. The best kinds are P. rotundifolia, leaves leathery; flowers white, drooping and fragrant; late summer; Britain. Arenaria is a variety with smaller leaves. P. medea, white; P. minor, white and rose; and P. uniflora (also known as Moneses grandiflora), white, are other native species. All grow under 6in. in height. Plant in autumn or spring Increased by seeds sown outdoors in March; division in autumn or spring.

Ramondia (Rosette Mullein).—R. pyrenaica, the only species grown to any extent, is a charming alpine perennial, belonging to the Gloxinia order (Gesneriaceæ). It only grows 4in. high, has rough wrinkled foliage borne in rosette form, and bears fairly large, violet-coloured flowers in spring and summer. There is a white form of it named alba. This interesting plant requires to be grown in vertical chinks or clefts of moist porous rock facing north. Here, in good sandy loam and leaf-mould, it will flourish and form an interesting object when in flower. A native of the Pyrenees. Plant in March or April. Increased by seeds sown in peaty soil in a cold frame in spring; by division in August; leaf cuttings in moist peat in a cold frame; cuttings of side growths in a similar manner in late summer.

Ranunculus (Buttercup).—A genus of tuberous-rooted and herbaceous perennials, belonging to the order Ranunculaceæ. The former are dealt with in the section devoted to Bulbs and Tubers. The latter we shall deal with here. The principal herbaceous species are as follows: R. aconitifolius flore pleno (Fair Maids of France and Kent), a European species, growing 2ft. high, and bearing double white flowers in June. Moist shady borders. R. acris flore pleno (Double Buttercup or Bachelor's Buttons), a double yellow form of one of our native species. It grows 21ft. high, and flowers in



A SHADY FERN-FRINGED PATH.

In outlying parts of the garden, where there is not sufficient sun to grow flowering plants, hardy ferns may be grown. See pp. 19 and 308.



spring and summer; moist shady borders. R. alpestris, a native of Central Europe, grows 4in. high, and bears large white flowers in summer. Suitable for rockery culture in moist sandy soil. R. amplexicaulis, a species from the Western Alps, growing ift. high, and bearing large pure white flowers in April and May. The flowers are excellent for cutting. Moist loam and shady position. R. bulbosus fl. pl., a native species, bearing double vellow flowers in summer. Moist shady border. R. bullatus, a N. African species, bearing fragrant yellow flowers late in autumn. R. glacialis, a Pyrenean species, growing 6in. high, and bearing white and rosy-tinted flowers in summer. Moist shaded rockery. R. gramineus flore pleno is a European species, with grey foliage and double golden-yellow flowers borne in May and June. Sandy soil and partially shady position. R. Lingua (Greater Spearwort), a native species, grows 3 to 4ft. high, and bears very large bright yellow flowers in late summer. A waterside plant. R. monspeliacus is a native of S. Europe, grows 1ft. high, and bears yellow flowers freely in April and May. Moist soil and shady border, R. parnassifolius is a Pyrenean species, growing 6in. high, and bearing white and pink flowers in June and July. There are several other species, but they possess no special merit. Each species should be planted in the soil and position indicated in October or March. Increased by division of the roots in autumn or spring.

Reseda (Mignonette).—The familiar garden flower known as the Mignonette, and botanically as Reseda odorata, is a native of N. Africa and Egypt, and has been cultivated in this country for quite a hundred and fifty years. It is a hardy annual, but there is a shrubby form of it called frutescens which is perennial in habit and often grows into a good-sized bush at the base of greenhouse or hot-house walls and other warm sites. The Mignonette is not grown so much for the beauty of its flowers as for its fragrance, which is most deli-There are many varietal forms of the Mignonette in cultivation, the best being Parson's White, 1ft.; Garraway's White, Ift.; grandiflora, large spikes, Ift.; Matchet, very large spikes, Ift.; pyramidalis gigantea, crimson-tinted, 2½ft.; Golden Queen, yellow-tinted, gin.; Miles' Spiral, 1ft.; Victoria, Seeds may be sown in the open air in April or in September. In mild districts and warm, well-drained soils, the autumn-sown plants yield the best results. The seedlings should be thinned out early to 4 or 6in. apart to ensure bushy plants. Another good plan is to sow seeds in gentle heat in early spring and transfer the seedlings to small pots, grow on in heat, harden off, and plant out the middle of May.

Mignonette requires a rich soil, and it a little lime or old mortar can be added previous to sowing the plants will thrive all the better for it. To ensure bushy specimens, nip out the points of the main shoots when a few inches high. Nat. Ord. Resedaceæ.

Rheum (Rhubarb).—Several species of rhubarb are grown in flower gardens for the sake of their noble and handsome foliage. Few plants have a more imposing effect than a wellgrown specimen of R. officinale grown on the lawn. Unfortunately the rhubarbs do not maintain their beauty for long. In May and June, however, they certainly lend picturesqueness to the garden, and are worth growing in large gardens where there is plenty of room. Besides R. officinale, a native of Thibet, growing 8 to 10ft, high, there are a few other species. such as R. Emodi, 6 to 10ft., a native of the Himalayas; and R. palmatum, 5ft., a native of Asia; and its cut-leaved variety tanguticum. Even the rhubarbs cultivated as a vegetable are not to be despised as flower garden plants where plants of noble foliage are desired. Handsome as the foliage of the foregoing species is, the beauty of the plant is still further enhanced by the large panicles of inflorescence which are borne well above the handsome leaves. The roots require to be planted in early spring in deeply-dug and well-manured soil. In a rich soil the growth will be luxuriant and the general appearance more imposing than if grown in poor soil. May be grown on the margins of a pond or stream; as an isolated specimen on the lawn; and in the shrubbery border. Increased by seeds sown in heat in spring; also by division in autumn or spring. Nat. Ord. Polygonaceæ.

Rhexia (Meadow Beauty).—R. virginica is a charming little bog plant from Virginia, growing oin, high, and bearing bright rosy-purple flowers with protruding golden stamens in July and August. It belongs to the Nat. Ord. Melastomaceæ. It requires to be grown in moist sandy peat in partial shade. A moist nook on a rockery or the margin of a bed of peatloving plants would suit its requirements nicely. Plant in autumn or spring. Increased by division in spring.

Rodgersia (Rodger's Bronze-leaf).—R. podophylla is a noble, hardy, herbaceous perennial with large, palmate, bronzy foliage and creamy white flowers borne in panicles in June and July. It grows about 3ft. high, is a native of Japan, and belongs to the Saxifrage order (Saxifragaceæ). A really handsome plant to grow in a peaty soil in a moist shady position.

Plant in spring and mulch around the crowns with decayed manure annually in autumn. Increased by division of the root-stocks in March.

Romneya (Giant Californian Poppy).—The only species is R. Coulteri, and this is a native of California, and belongs to the Poppy order (Papaveraceæ). It is of a shrubby habit of growth, and when grown in a congenial soil and position develops into a large bush. The leaves are pinnatified, the stems glaucous, and the flowers large, poppy-like in form, white and fragrant. It requires to be grown in sandy loam in a well-drained, slightly-raised bed or border, in a sheltered sunny position. It will not succeed in heavy soils or damp cold positions. Growth is sometimes slow for the first year or so, but once the plant is established it will grow and flower freely. Plant in spring. In severe winters protect the crowns by a covering of bracken, litter or leaves. In dry weather give water freely. Increased by seeds sown in sandy loam in a frame or in slight heat in early spring, afterwards growing the seedlings on in pots till the following spring, then planting out. The flowers last a long time in a cut state if the buds are gathered before they are too fully developed.

Rudbeckia (Cone Flower).—A genus of hardy, herbaceous, sunflower-like perennials or annuals, natives of N. America, and members of the Daisy order (Compositæ). All the species named below are showy plants for the mixed sunny border in large or small gardens. The annual species are: R. amplexicaulis, yellow, ift., hardy; R. bicolor, yellow rays, dark centre, 18in., half-hardy; R. bicolor superba, yellow spotted with brown, 18in., half-hardy annual; and R. bicolor flore pleno, yellow, double, 18in., half-hardy annual. The hardy species should be sown in the borders in April; the half-hardy ones reared in gentle heat in March, and planted out 6 to 10in. apart in May. The perennial species are: R. californica, golden-yellow, dark brown conical disc, summer, 5 to 6ft.; R. hirta, yellow, purple-brown disc, summer, 2ft.; R. laciniata, yellow, greenish-yellow disc, summer, 6 to 10ft.; R. l. grandiflora, yellow, Aug. and Sept., 5 to 6ft.; R. l. Golden Glow, rich yellow double flowers borne in autumn, excellent for cutting; R. l. Autumn Glory, large, rich golden flowers with bronze discs, valuable for cutting; R. maxima, vellow, ray florets drooping, Aug., 6 to 8ft.; R. pinnata, yellow, ray florets drooping, July, leaves pinnate, 3ft.; R. purpurea (Syn. Echinacea purpurea), rosy-purple, large, drooping, Aug. and Sept., 3 to 4ft.; R. p. intermedia, a variety of a more branching habit; and R. speciosa (Syn. R. Newmani), orangeyellow, purplish disc, Aug. and Sept., 2 to 3ft. The last-named is the most species of all, flowering profusely, and its flowers are invaluable for cutting. A fine plant for small gardens. The correct name of R. pinnata is, according to the Kew authorities, Lepachys pinnata. The Rudbeckias succeed in ordinary well-drained soil and in sunny or partially shady positions. Best grown in bold masses. Plant in autumn or spring. Increased by seeds sown outdoors in April, also by division in autumn or spring.

Rumex (Dock).—The only species worthy of mention here is the Water Dock (R. Hydrolapathum), a native of Britain, and a member of the Rhubarb order (Polygonaceæ). It has large green leaves which assume a bright red tinge in autumn, and flower stems which grow several feet high. A handsome plant to grow on the margins of ponds or watercourses. Plant in spring. Increased by division.

Ruta (Rue).—The Common Rue (R. gravoleons) possesses no special attraction as a flower garden plant, but its variegated form (R. g. variegata), with golden variegated leaves, is worthy of a place in the mixed border. Ordinary soil. Plant in autumn or spring. Increased by division.

Sabbatia (American Centaury).—Hardy biennials, belonging to the Gentian order (Gentianaceæ), and natives of N. America. They are plants of considerable beauty when in flower and worthy of a place in larger gardens where a full collection of hardy plants are desired. The chief species are: S. angularis, rose, I to 2ft.; S. campestris, rose, Ift.; S. chloroides, rose, I to 2ft.; S. paniculata, white, I to 2ft.; S. stellaris, rosy-purple, 6 to 20in. All flower in summer. Sow seeds in peaty soil in a cold frame in spring, and plant out in May in a shady, moist border of peaty soil. Or sow seeds in April where required to grow. S. campestris will succeed in a drier position than the rest. A batch of plants should be reared annually to flower the next season.

Sagina (Pearlwort).—S. pilifera (Syn. Spergula pilifera) is a dwarf, mossy-like perennial formerly used as a substitute for grass for lawns on sandy soils. Experience has shown, however, that it is not a good substitute for grass, and so it is now used only for carpeting bare spots over bulbs or as edgings to borders. Its golden-leaved variety aurea is largely used for carpet bedding purposes. Easily increased by division in autumn. A native of Corsica, and a member of the Carnation order (Caryophyllaceæ).

Salvia (Sage) .- Hardy and half-hardy perennials, members of the Sage order (Labiatæ). All are very showy plants for the border. The hardy species are, S. argentea (Silvery Clary), a native of S. Europe, with silvery, woolly foliage and white flowers borne in summer; height 3ft. S. azurea grandiflora, a native of N. America; flowers sky-blue, borne in summer; height 3ft. S. pratensis (Meadow Sage), a native species, with lilac-blue flowers; height 2ft.; good for naturalising in the wild garden. Alba, white; rosea, rose; and Tenori, violet-blue, are showy forms of the latter species. S. ringens, a native of Greece, has reddish-purple flowers, and grows 2ft. high. S. hiana is a Himalayan species, growing 2ft. high, and bearing lovely blue flowers. S. Sclarea (Clary), a European species with bluish-white flowers, is sometimes grown for naturalising in the wild garden. All the foregoing will succeed in ordinary soil in sunny borders. Plant in autumn or spring. Increased by seeds sown outdoors in April; cuttings inserted in a shady border in summer; division in autumn or spring. The halfhardy species include S. patens, a blue-flowered, tuberousrooted species from Mexico; S. splendens, a scarlet-flowering species from Brazil; S. fulgens, scarlet, Mexico; S. Grahami, blue, Mexico; S. Bethelli, rosy-crimson, Mexico; and S. rutilans, scarlet. S. patens requires to be treated like a dahlia, i.e., have its tuberous roots lifted in autumn, stored away till March, then potted, started in heat, hardened off and planted cut in May. The other species require to be planted out late in May. In August cuttings should be taken from them and rooted in pots in a cold frame, and transferred to a heated house in October. In spring pot off the cuttings singly, nip off their points now and then to ensure bushy growth, and finally harden off in May. They are also easily reared from seeds in heat in February, the seedlings being grown on under glass and planted out late in May. The tender salvias require a not too heavy soil and a warm sheltered position. Best grown in masses in beds or borders.

Samolus (Brookweed).—S. repens or littoralis is a New Zealand trailing evergreen perennial, belonging to the Primrose order (Primulaceæ). It bears pink blossoms freely in summer, and is a pretty plant to grow in peaty soil in a moist border or rockery. Plant in spring. Increased by division in March.

Sanguinaria (Bloodroot).—The only species grown is S. canadensis, a native of N. America, and a member of the Poppy order (Papaveraceæ). It is a hardy perennial, with creeping root-stocks, roundish-veined leaves and solitary white

flowers borne in April and May. This plant requires a peaty soil and a moist, shady position. Will do well under the shade of trees. Plant in autumn or spring. Increased by division in spring; also by seeds sown in peaty soil in a cold frame in spring.

Santolina (Lavender Cotton; French Lavender).—A genus of hardy shrubby perennials with hoary fragrant foliage. They belong to the Daisy order (Compositæ), and are natives of S. Europe. The species most generally grown are: S. Chamæcyparissus, foliage silvery grey, height 2ft., flowers yellow; S. incana, foliage silvery white; height 1ft., flowers bright yellow; S. rosmarinifolia, foliage rosemary-like, flowers yellow, height 2ft.; S. viridis, foliage green, flowers white, height 1ft. These plants are suitable for dryish, warm sunny borders or rockeries. Ordinary soil. Plant in autumn or spring. Increased by cuttings in cold frame in autumn; division in autumn or spring.

Sanvitalia.—S. procumbens is a showy hardy Mexican annual, belonging to the Daisy order (Compositæ), and of a more or less trailing habit of growth. The flowers are yellow with a brown central disc, and borne in summer. There is a double-flowered form which is also very pretty. It is quite hardy, and seeds may be sown in the open border in September to yield plants for spring flowering, or in April for summer blooming. Thin the seedlings out to 4 or 6in. apart. Useful as an edging to borders; growing in masses on the margins of borders; or in small beds; or for draping the sides of vases. Ordinary soil and a sunny position.

Saponaria (Soapwort).—Hardy annuals and perennials of the Carnation order (Carvophyllaceæ), and showy plants for sunny borders. S. calabrica, a native of Calabria, is a pretty annual species, growing 6 to 12in. high, and bearing bright rosy blossoms in profusion in summer. There is also a white-flowered variety of it named alba. Both are showy kinds to grow in beds, in masses, or as edging to borders. Sow seeds thinly in April where required to grow, and thin the seedlings out to bin, apart. These will flower in August and onwards. Seeds may also be sown outdoors in September to flower the following spring. The perennial species are as follows: S. cæspitosa, a native of the Pyrenees, bearing clusters of pink flowers in summer, and grows 4 to 6in. high. Suitable for a partially shady rockery. Ordinary soil. S. ocymoides, a native of S. Europe, with trailing, wiry shoots and small pink or crimson blossoms borne profusely in summer. Alba is a white, and splendens a vivid crimson variety of it. All do best in dry positions on a sunny border or rockery. Ordinary soil. S. officinalis, a native of Britain and Europe, is a vigorous species, growing 2ft. high, and bearing lilac or white flowers in late summer. Suitable for rough parts of the wild garden or banks. S. officinalis flore pleno is a double form superior to the type. Suitable for large mixed sunny borders. Plant in autumn or spring. Increased by seeds sown outdoors in April; division in spring.

Sarracenia (Huntsman's Horn; Side-saddle Flower).—A curious, hardy N. American perennial, with tubular, bloodred leaves and furnished with a purple-veined, lid-like appendage at the apex. In summer purple flowers are borne on scapes a foot high. It belongs to the insectivorous class of plants and to its own special order, the Sarraceniaceæ. This plant requires special culture. It should be grown in a bed of moist fibrous peat and sphagnum moss in an open sunny spot. If possible, the surface of the bed should be covered with living sphagnum moss. The soil must never become dry. Plant in spring. Increased by division.

Saxifraga (Rockfoil).—A genus of very interesting and pretty rock and border perennials of diverse habits of growth, belonging to the order Saxifragaceæ. The genus is divided into four sections by hardy plant specialists. First we have what are designated as the Encrusted Saxifrages, with silvery foliage borne in rosettes; secondly, the Mossy Saxifrages, with a moss-like growth; thirdly, the miscellaneous section, with foliage of various types; and, fourthly, the Megasea section,

with large bold foliage.

I. ENCRUSTED SAXIFRAGES.—The first section embraces the following species: S. aizoon, creamy-white, June; Europe; and its varieties, balearica, white, spotted crimson; carinthiaca, white; Griesbachii, rose; intacta, white; La Graveana, snowywhite; marginata, white; yellow centre; all requiring a loamy soil and to be grown in fissures of rock on rockery. S. aizoides, yellow, dotted red, summer; 3 to 6in.; Britain; loam; fissures of shady rockery. S. crustata, white, spotted purplered, summer; loam; fissures of sunny rockery. S. Hostii, snow-white, dotted purple, May; height 6 to 12in.; S. Europe; loam; fissures of sunny rockery; S. cæsia, white, June; height rin.; Pyrenees; loam; well-drained nook sunny rockery. S. Cotyledon, white, borne as pyramidal panicle, June; height 1 to 2ft.; Europe; loam; sunny rockery or old wall. Pyramidalis is a stronger growing variety and not so hardy. lingulata superba, white, dotted rose, early summer; height 18in.; Alps; loam; fissures of sunny rockery. S. longifolia, snow-white, borne in pyramidal cluster 12 to 18in. long, July;

Pyrenees; loam; in crevices of sunny rockery. S. macnabiana, white, spotted crimson, May and June; height 4 in.; hybrid; loam; sunny rockery. S. rocheliana, white, May; Austria; loam; well-drained nook of sunny rockery. S. valdensis, white, large, May; height 3in.; S. France; loam; same position as last.

- Mossy Saxifrages.—In addition to the moss-like growth the following species also bear fragrant flowers. S. cæspitosa, white, June to August; 3in.; Britain; moist loam; edgings to shady borders or carpeting bare spaces on shady rockery. S. hypnoides, white, May to July; Britain; culture as for last species. Gemnifera, purpurea, and rosea are varieties of it. S. muscoides, yellow or purple, May and June; 3in.; Pyrenees; culture as advised for S. cæspitosa. Atropurpurea, red; moschata, white; Rhei, rose; and Rhei superba, deep rose, all pretty varieties, Rhei being a specially attractive kind. S. tenella, white, summer; Alps; loam; shady rockery. S. trifurcata (Stag's Horn Rockfoil) (Syn S. ceratophylla), white, summer; 3 to 6in.; Spain; culture as for last species. S. Wallacei (Syn. S. Camposi), white, June; 4 to 6in.; culture advised for S. tenella. For edgings to beds or borders, or for carpeting small beds planted with choice bulbs, or for covering stones on a rockery. S. hypnoides and S. muscoides are specially suitable. S. Wallacei is also a splendid plant for a similar purpose, and is one of the best of the Mossy Saxifrages.
- 3. MISCELLANEOUS SECTION.—S. umbrosa (London Pride) is a favourite plant in town and suburban gardens. A good plant for shady rockeries or borders. Ordinary soil. Flowers white and pink, dotted red, summer. Geum and punctata are varieties of it. S. ajugæfolia, white, July; Pyrenees; ordinary soil; edgings to shady beds or borders. S. Andrewsi, white, dotted purple, summer; hybrid; loam; moist rockery. S. apiculata, primrose-yellow, February to April; hybrid; loam; carpeting plants for sunny rockery. S. burseriana, white, veined yellow, March to June; 2in.; Alps; loam; welldrained sunny rockery. Major is a superior variety with larger flowers. S. cunefolia, white, yellow centre, May; S. Europe; loam; moist ledge of warm rockery. S. granulata fl. pl. (Double Meadow Saxifrage), white, double, May; Britain; 6 to 10in.; loam; moist shady rockery or border. S. oppositifolia, purple, May; Britain; gritty, sandy loam; moist shady ledges of rockery. Alba, white, and splendens, rosy-crimson, are superior varieties of it. S. peltata (Umbrella Plant), white or pink, April; height 2 to 3 ft.; California; moist loam; margins of watercourses or damp shady borders. S. rotundifolia, white, dotted scarlet; ift.; Austria; loam; moist shady rockery or

border. S. sancta, yellow, March and April; Greece; loam; well-drained sunny rockery. S. sarmentosa (Mother of Thousands), yellow, white, scarlet, summer; sunny walls or rockeries; somewhat tender. S. Cymbalaria or Sibthorpii, yellow, March to August; Caucasus; biennial; damp walls or rockeries.

4. MEGASEA SECTION.—These are distinct from the preceding species. They have large, leathery, shining leaves and are of robust growth. They succeed well in ordinary soil in sun or in shade, and also do well in town and suburban gardens. May be grown in masses in shrubbery borders or in the woodland garden. Of special value because they flower early in the year. The two species generally grown are S. cordifolia, rose, ift., Siberia; and S. crassifolia, red, gin., Siberia. Purpurea, crimson, is a fine form of S. cordifolia; and gigantea, purple; Progress, rosy-pink; Distinction, pale pink; and Milesi, white, equally good varieties of S. crassifolia.

The Encrusted Saxifrages are increased by offsets or division, as well as by seed. All the other kinds may be increased by seeds likewise; by cuttings; and by division.

Scabiosa (Scabious).—A genus of hardy annuals or biennials and perennials, belonging to the Teazel order (Dipsaceæ). The Sweet Scabious (S. atropurpurea), a native of S. Europe, is a popular annual or biennial, largely grown for the sake of its fragrant flowers, which are most valuable for cutting. It grows 2 to 3ft. high, and bears double-crimson flowers on branching stems in July and August. The following are extremely pretty varieties of it: Candidissima fl. pl., creamywhite; King of the Blacks, dark purple; marginata, purple, edged white; nana fl. pl., dwarf (18in.), various colours; minor aurea, yellow; The Fairy, blue; hybrida Victoria, various colours, very pretty. Seeds should be sown outdoors in April to yield plants for flowering in August; and in September for flowering the following June and July. Sow thinly, and thin out the seedlings to a foot apart. Seeds may also be sown in gentle heat in March and the seedlings planted out in May. The best of the perennial species is S. caucasica (Caucasian Scabious). This grows from 1 to 2ft. high, and bears large pale blue flowers, often 3in. across, in summer. It is a lovely plant for the mixed sunny border, and its charming flowers are exquisite for cutting. A sandy, well-drained soil is necessary to grow it well. In some gardens it is only of biennial duration, especially where the soil is damp or the district cold. It is therefore advisable to grow a fresh supply annually from seeds sown outdoors in July, transplanting the seedlings into their flowering position in September or early October. Alba is a pretty white form of it. Other perennial species are S. Pterocephala, purple, summer, 4 to 6in., Greece; S. graminifolia, pale blue, summer, 2ft., S. Europe; S. Webbiana, creamy-yellow, July, 6 to 8in., Phrygia; and lutea, primrose-yellow, summer, 4 to 5ft. The first three may be grown on a rockery or the margins of borders, and the lastnamed in borders only. Its flowers are valuable for cutting. Ordinary good soil. Plant in autumn or spring. Increased by seeds as advised for S. caucasica; also by division in spring.

Schizanthus (Butterfly or Fringe Flower).—Hardy or half-hardy annuals, natives of Chili, and members of the Potato order (Solanaceæ). They have more or less finely divided or pinnatified foliage and curiously formed spotted flowers. The most popular species is S. pinnatus, which grows about 2ft. high. Of this there are numerous varieties, as atropurpurea, purple, dark eye; candidissima, pure white; papilionaceous, flowers of various shades spotted with purple; and roseus, rose, spotted. Grandiflora hybrida is a beautiful strain of dwarf, compact-growing, hybrid Schizanthus, which are very showy. The foregoing are hardy, and may be sown outdoors in April where required to grow, the plants being afterwards thinned out to a foot apart. May also be sown in heat, the seedlings hardened off and planted out in May. Suitable for beds or for massing in sunny borders; ordinary soil. The half-hardy species worthy of culture is S. Grahami, lilac-orange, 18in.; and its reputed varieties, retusus, rose, orange and crimson; and retusus albus, white with crimson tip; and Wistonensis, white, pink, rose and crimson. These require to be raised in heat in March, grown on in pots or boxes, hardened off in May, and planted out a foot apart in June. All the foregoing kinds are charming plants for garden decoration in summer.

Schizocodon.—()nly one species is grown, and that is S. soldanelloides, a native of Japan, and a member of the Nat. Ord. Diapensiaceæ. It is of dwarf stature, growing only 3in. high, and bears deep rose flowers prettily fringed at the edges with white filaments in March. A dainty and precious gem for a warm sheltered rockery. Grow in peat and sand. Plant in spring. Increased by division in spring.

Schizopetalon.—S. Walkeri is a hardy annual, growing ift. high, and bearing prettily fringed white, almond-scented flowers in summer. The fragrance is most perceptible at night. A native of Chili and a member of the Wallflower

order (Cruciferæ). Sow seeds outdoors in April or May where required to grow, and thin out the seedlings to 6in. apart. A warm border or bed and a well-drained rich soil is necessary to grow this plant well.

scutellaria (Skull-cap; Helmet Flower).—Hardy perennials, belonging to the Lavender order (Labiatæ). They are rather weedy-growing plants, and few are to be recommended for culture except in very large gardens. The only ones worthy of a place are: S. alpina, a trailing, European species, with purple and yellow flowers borne in August; S. japonica, a trailing Japanese species, with blue flowers borne in summer; S. macrantha, a native of Siberia, bearing blue flowers in August, and growing ift. high; and S. orientalis, a creeping species from Asia, bearing yellow and purple flowers in August. The foregoing species are suitable for growing on partially shady rockeries, in deep, sandy, well-drained loam. Plant in spring. Increased by division in spring.

Sedum (Stonecrop).—Hardy perennials, belonging to the Houseleek order (Crassulaceæ). Some of the species thrive on old walls, others as edgings to beds or borders, and others again in the mixed border. All are easily grown, interesting in the diversity of form of their foliage, and not at all wanting in the beauty of their flowers. The following are the dwarf species suitable for wall culture or growing as edgings to borders, and for carpet bedding: S. acre, 3in.; flowers yellow, June; Britain. S. acre aureum, leaves goldenyellow. S. acre elegans, leaves silvery. S. album, flowers white, August; 3in.; Britain. S. album brevifolium, leaves shorter and thicker than most of the parent. S. glaucum (Syn. S. dasyphyllum), flowers pinkish-white, summer; leaves glaucous or reddish; 2in.; Europe. S. Lydium, flowers pink, August; leaves green tipped with red; 2in.; Asia Minor. S. reflexum, yellow, summer; leaves roundish, reflexed; 4in.; Britain. S. Anacampseros, flowers violet, July; 4in.; leaves round, margined with red; Central Europe. S. rupestre, flowers golden-yellow, June; 3in.; habit tufted; Britain. S. rupestre monstrosum (Cockscomb Stonecrop), a variety with fasciated stems. S. spathulifolium, flowers golden-yellow, summer, leaves grey-green and fleshy; 2in.; British Columbia. S. stoloniferum (Syn. S. spurium), flowers pink, August; 3in.; Caucasus. S. stoloniferum album, flowers white; and S. stoloniferum coccinea, flowers scarlet, are varieties. S. Ewersii, flowers pink, Aug.; 3in.; Siberia. S. Ewersii turkestanicum, pink, summer; 3in.. S. pulchellum, rosy-pink, summer: 3in.; N. America. The foregoing will succeed in ordinary soil, and may be planted in autumn or spring. For carpeting

surfaces or forming edgings merely dibble in rooted portions a few inches apart, and then the space will soon be covered. To establish plants on walls prepare a mixture of fresh cow dung and clay, and use some of this to fix the plants in the crevices. The taller kinds, which may be grown on rockeries or in borders, are as follows: S. aizoon, flowers yellow, Aug.; ift.; Siberia. S. kamtschaticum, flowers yellow, Sept.; 6in.; Kamtschatka. S. Maximowiczi, flowers yellow, July; 18in.; Siberia. S. maximum, flowers white, spotted red, Sept.; 2ft.; Europe. S. populifolium, flowers pink and white, with purple stamens, Aug.; 18in.; N. America. S. roseum (Syn. S. rhodiola), flowers yellow or purplish, summer; 6 to 12in.; Britain. S. Sieboldii, flowers pinkish, Aug.; stems trailing; Japan. S. Sieboldii variegatum is a variegated variety, with a creamywhite blotch on each leaf. Both hardy only in warm districts. S. spectabile, flowers pink, Sept.; 1 to 2ft.; Japan. A showy species, one of the best. S. Telephium, flowers rosy-white, July; 12 to 18in.; Britain. The species just referred to will thrive in ordinary soils in sunny positions. S. spectabile, in fact, will do well in shade, and is a bright autumnflowering plant. Plant in autumn or spring. All are readily increased by seeds sown outdoors in April; by cuttings dibbled in the open border in summer or autumn; also by division in autumn or spring. S. sarmentosum (Svn. S. carneum variegatum) is a pretty, tender, Chinese species, with leaves edged with white and pink stems. It grows about 3in. high, and is specially suitable for carpet bedding in summer. The plants require to be protected in a heated greenhouse in winter and planted out in May. All are easily increased by cuttings or division.

Sempervivum (Houseleek).—Hardy, fleshy-leaved perennials, with leaves arranged in rosette form, and adapted for edgings to beds and borders, or growing in crevices or beds of the rockery. Nat. Ord. Crassulaceæ. The Common Native Houseleek (S. Tectorum), leaves green, tipped reddishbrown; S. calcareum (Glaucous Houseleek), leaves blue-green, tipped crimson-brown, Alps; and S. montanum (Mountain Houseleek), leaves downy, Pyrenees; are three species largely used as edgings to summer beds. They also make good permanent edgings to border. May also be grown in the crevices of rockeries. Ordinary soil, mixed with a little mortar or brick rubbish, will be a suitable compost. S. tabulæforme is a tender species, with leaves so growing as to form a flat green disc. This is used largely as an edging to carpet beds. Requires to be protected in a greenhouse in winter and planted out in May. The other species of Houseleek are as

follows: S. arachnoideum (Cobweb Houseleek), a native of the Pyrenees; leaves arranged in small rosettes and covered with cobwebby filaments; flowers red, June. Laggeri is a form of it with larger rosettes. S. arenarium (Sand Houseleek), a native of the Tyrol; leaves ciliated on margins and tinged brown; flowers yellow, summer. S. fimbriatum (Fringed Houseleek), a native of the Alps: leaves fringed with hairs and tipped purple-red; flowers red, July. S. Funckii, a native of the Tyrol, leaves green and fringed with hairs; flowers rosy, July. S. glaucum, a native of the Alps; leaves fringed with hairs and tipped reddish-brown; flowers bright red, summer. S. globiferum ("Hen and Chickens"), a native of the Alps; leaves in round rosettes surrounded by brownish offsets; flowers purple, summer. S. Pomellii, a native of the Alps; leaves hairy, tinged with red; flowers rosy-red, summer. S. triste, a native of the Alps; leaves dull bronzy-red; an attractive plant. The foregoing will succeed on old walls; in chinks or crevices of rockeries; or in clumps on the margins of borders. Sandy soil with a little old mortar added. To establish them on walls, fix the plants in with a mixture of cow dung and clay. Plant in spring. Increased by offsets in spring or summer.

Senecio (Groundsel: Ragwort).—Hardy and half-hardy annuals and perennials, belonging to the Daisy order (Compositæ). The hardy species are more or less showy border plants and, with a few exceptions named below, thriving in ordinary soil in sunny borders. The best of the hardy kinds is S. pulcher, a native of Buenos Ayres, bearing rosy-purple flowers with a bright yellow disc in autumn. It grows 2 to 3ft. high, and does best in a deep, moist, loamy soil in the choice, mixed, sunny border. It is a really handsome plant. The other hardy species are: S. Doronicum, yellow, summer, 1ft., S. Europe; S. japonicus (Syn. Ligularia japonica), a Japanese species, growing 4 to 5ft. high, and bearing orange-vellow flowers in autumn; S. macrophyllus (Syn. Ligularia macrophylla), a Caucasian species bearing golden-vellow flowers in summer, and growing 4 to 6ft. high, and having large, handsome foliage; S. Kæmpferi aureo maculatus (Syn. Farfugium grande), a Japanese species, with roundish leaves blotched with vellow, white or rose; and S. argenteus, a Chilian species, growing 1ft. high, and having silvery foliage. S. Doronicum may be grown in the choice mixed border; S. argenteus in a similar position or on a rockery; S. Kæmpferi in slight shade and a peaty soil; S. japonicus by the side of a lake or watercourse; and the rest in the wild garden or large mixed border. Plant in autumn or spring. The half-hardy species is S. cineraria, better known as Cineraria maritima. This species

has silvery foliage and is much used in summer bedding. A variety of it named candidissima has foliage of a more silvery hue, and is superior to its parent for bedding purposes. Both are easily reared from seed in heat in spring, the seedlings being grown on in pots and planted out at the end of May. Cuttings of the side-shoots may also be inserted in small pots of sandy soil in a frame or greenhouse in autumn, kept thus till May, and then planted out. On light soils, and in mild districts, these plants will survive the winter outdoors, but they are apt to grow straggly. S. elegans (Purple Jacobæa) is a showy half-hardy annual from South Africa. It grows about 18in, high, and there are double and single-flowered forms of it, the former being the best. The flowers are of various shades of white and crimson. A mixed packet of seed will yield a variation of showy colours. The varieties nanus, dwarf; albus, white; atropurpureus, purple; and carmineus, crimson, grow about a foot high. They are showy plants for beds or massing in borders. Sow the seeds in heat in March, harden off the seedlings and plant out a foot apart in good, rich, sandy soil in May. May also be sown in the open border in April or May, afterwards thinning the seedlings out to 10 or 12in. apart. The hardy perennials may be increased by seeds sown outdoors in April, or by division in autumn or spring. S. pulcher may also be increased by cuttings of the fleshy roots, 2in. long, inserted in sandy soil in a cold frame in spring.

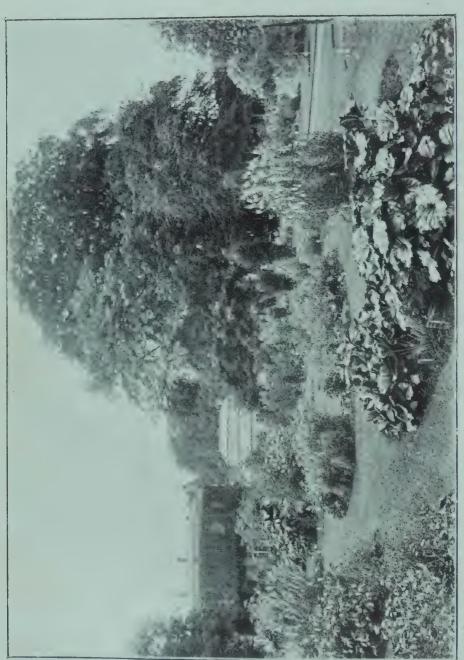
Shortia.—S. galacifolia is a dwarf perennial, growing 3 to 4in. high, and bearing white or pale rose, funnel-shaped flowers in March and April. A native of N. America and a member of the Nat. Ord. Diapensiaceæ. The foliage assumes a pretty bronzy-crimson tint in autumn. A charming plant to grow in a bed of sandy peat or sand loam on a sunny rockery. One or two plants might also be tried in partial shade, as sometimes they do better there than in a sunny position. Plant in autumn or spring. Increased by seeds sown in sandy peat in a cold frame in spring; also by division in March.

Sibthorpia (Moneywort).—S. europæa is a native trailing perennial, with small, kidney-shaped leaves and rose or pink flowers borne in late summer. A form of it called variegata has leaves margined with creamy-white. The latter, however, rarely thrives well outdoors. The species will grow in ordinary moist soil on a shady rockery, and the variety may be tried under similar conditions. Increased by division of the rooted stems in spring. Foxglove order (Scrophulariaceæ).



AN EXAMPLE OF SIMPLE SPRING GARDENING

This picture shows what a pretty effect can be obtained by growing wallflowers in bold masses in narrow dry borders at the base of house walls. See pp. 58 and 113.



Sidalcea.—Hardy perennials, belonging to the Mallow order (Malvaceæ). Showy plants for mixed sunny borders and ordinary soil. The most noteworthy species are S. candida, white, borne in terminal racemes in summer; height 3ft.; Colorado. S. malvæflora (Syn. Callirhoe spicata), lilac or pale rose; 3ft.; Texas; and S. malvæflora Listeri, a delicate shade of pink with fringed flowers, 3ft. The last-named is a very showy plant. Plant in autumn or spring. Increased by seeds sown in gentle heat in summer, then hardened off and planted out to flower the next season; or by division in March.

Silene (Catchfly; Campion).—Hardy annuals, biennials and perennials, belonging to the Carnation order (Caryophyllaceæ). The annual species are very showy border flowers, the varieties of S. pendula especially being extensively used for spring bedding. S. Armeria (Sweet William Catchfly) is an old species, a native of France and Switzerland, bearing pink flowers in panicles in August and September, and growing a foot or so high. May be grown in sandy soil in a sunny border. There is a white form called alba. The other annual species (S. pendula) is a native of Italy, grows a foot high, and bears fleshy-pink flowers in spring and summer. There are several well-known varieties of it, named Alba, white; compacta, pink; Empress of India, crimson; compacta flore pleno, double, rose; compacta alba flore pleno, double, white; and Snow King, white, single. The varieties range from 6 to 12in. in height. They are used for carpeting beds of spring bulbs, edging borders, and growing in masses in borders. Sow seeds of S. Armeria outdoors in April, or in cold frames in September, and plant out in spring. S. pendula and its varieties may be sown outdoors in July, the seedlings transplanted when large enough to handle, 3 to 4in. apart in a nursery bed, and finally planted in their flowering positions in September or October. Plant 6 to 8in. apart. For summer flowering sow outdoors in April. S. compacta is a lovely hardy biennial, a native of Russia. It grows 18in. high, and bears pink blossoms in dense corymbs during the summer. This showy plant may be raised from seed sown in a cold frame in September, the seedlings being grown on in pots or boxes and planted out in spring; or sown outdoors in April to yield plants for flowering the next year. A rich, deep, well-drained soil and sunny border are necessary to grow this species well. The perennial species include the dainty little native Moss Campion (S. acaulis), an alpine with a compact. cushion-like growth which is studded with pink blossoms in summer. There is a white variety named alba; a pale pink

form called exscapa; and a crimson one called grandiflora. These plants require to be grown in a compost of sandy loam, peat and leaf-mould on a partially shaded rockery. Only suitable for country gardens where the air is free from sulphurous atmospheric deposits. S. alpestris is a native of the Alps, grows 3in. high, is of compact growth, and bears sheets of glistening white flowers in early summer. Requires the same treatment as S. acaulis. S. Pumilio (Pigmy Catchfly) is a Tyrolese species, growing 2 to 3in. high, and bearing rosy flowers in July. Grow as advised for S. acaulis. C. maritima (Sea Catchfly) is a native species with procumbent stems, seagreen foliage, and white flowers borne in summer. double-flowered variety (flore pleno) bears double-white flowers the size of pinks, and is far superior to the species. This kind does well on a sunny rockery or margin of a border. There is also a blush-pink, single-flowered variety named rosea which is very pretty. S. Schafta is a dwarf Caucasian species, growing 6in. high, and bearing purplish-rose flowers in September. This should be grown on the margins of mixed sunny brders or on rockeries. There are a number of other species in cultivation, but as they possess no special merit we pass them by. The perennial kinds should be planted in autumn or spring. Increased by seeds sown outdoors in April, or in sandy soil in cold frames in March; division in autumn or spring.

Silphium (Rosin Plant; Compass Plant).—Hardy herbaceous, yellow-flowered perennials of the Daisy order (Compositæ), and natives of N. America. Only suitable for the rough mixed border or wild garden. Ordinary soil. The following are the only species worth growing: S. laciniatum (Compass Plant), 8ft.; S. perfoliatum (Cup Plant), 4ft.; S. trifoliatum, 5ft. All flower in summer. Best grown in bold masses. Plant in autumn. Increased by seeds sown outdoors in April; division in autumn.

Silybum (Milk Thistle).—The only species grown is S. marianum, a hardy biennial, belonging to the Daisy order (Compositæ), and a native of S. Europe. It has pinnate thistle-like shiny leaves prettily blotched with white, and rosypurple thistle-like flowers borne in late summer. The plant grows 3 to 4ft. high, and is suitable for the wild garden, shrubbery border, or any other position where its handsome foliage can be seen to good effect. The flower-buds should be removed if the beauty of the foliage is to be maintained. Sow seeds where required to grow in April.

Sisyrinchium (Satin-flower; Rush Lily).—S. grandiflorum belongs to the Iris order (Iridaceæ), is a native of N.W.

America, and a hardy perennial of considerable beauty. It has grass-like leaves and bell-shaped drooping flowers on a spathe 8 to 12in. high in May and June. Album is a white-flowered variety. These plants do best in sandy peat and leaf-mould on a warm sheltered rockery, or in a mass in a partially shaded border. Plant in October or May. Increased by division of the creeping root-stocks in March. The flowers are valuable for cutting.

Hardy herbaceous perennials, belonging to the Lily order (Liliaceæ), and resembling somewhat in habit the Solomon's Seal. S. racemosa, native of N. America, grows 2 to 3ft. high, and bears white flowers in dense panicles in May and June. S. stellata is another American species, growing 1 to 2ft. high, and bearing white racemes in May. These two are suitable for the mixed sunny or shady border; in fact, may be grown similarly to the Solomon's Seal. S. oleracea, a native of Sikkim, grows 4ft. high, and bears white flowers in panicles in May, but is less hardy than the others, and will only succeed in southern gardens in a peaty soil and shady position. Plant in autumn or early spring. Increased by division in autumn or spring.

Soldanella (Moonwort).—Hardy alpine perennials, natives of the Tyrolese or Swiss Alps, and members of the Primrose order (Primulaceæ). They are charming little plants for rockery culture. Those deserving of culture are: S. alpina (Blue Moonwort), a lovely species, growing 3 to 4in. high, and bearing prettily fringed, bell-shaped, drooping flowers in April. A variety named Wheeleri is said to be an improved form. Other and less-known species are: S. minima, dark lilac, April, 2in.; S. montana, purple, April, 3in.; and S. pusilla, mauve, April, 2in. These lovely alpines require to be grown in sandy loam, peat and leaf-mould on a level, moist and shady part of the rockery. They must not be allowed to suffer for want of moisture in summer. Plant in spring, mulch with cocoanut-fibre refuse in summer to conserve the moisture. Increased by seeds sown in sandy peat in a cold frame in spring; also by division in March.

perennials, belonging to the Daisy order (Compositæ). Plants of rather weedy growth, suitable for wild garden, woodland and shrubbery borders, and the margins of water. They require ordinary soil only, and a sunny or shady position. Best grown in bold masses. The following species are natives of N. America: S. Buckleyii, yellow, 1ft.; S. neglecta, 5ft.; S.

nemoralis incana, 18in.; S. sempervirens, 5ft.; S. sempervirens multiradiata, 4ft.; S. serotina, 4ft.; and S. ulmifolia, 5ft. S. Virgaurea is a native species of little value, but its varieties cambrica, 1ft., and prostrata, a creeping form, 9in., are worthy of culture. All are yellow-flowered, flowering in August and September. Plant in autumn or spring. Increased by seeds sown outdoors in April; division in autumn or spring.

Specularia (Venus's Looking Glass).—Hardy annuals, closely allied to the Campanulas, and belonging to the same order (Campanulaceæ). S. Speculum is an old-fashioned garden flower, growing ift. high, and bearing bright purple, bell-shaped flowers in July. Of this there is a white variety, alba; a double-flowered one, flore pleno; and a trailing one called procumbens. Native S. Europe. Other less grown but pretty species are: S. hybrida, a native kind, with flowers blue inside and lilac without, Britain, 10in.; S. pentagonia, blue, 1ft., Levant; S. pentagonia alba, white; and S. perfoliata, purple-blue, 18in., N. America. These annuals should be grown in masses in sunny borders or beds. Sow the seeds at intervals from April to June where required to grow, and thin the seedlings out to 6in. or so apart.

Spigelia (Worm Grass).—Hardy perennials, natives of N. America, and belonging to the Nat. Ord. Loganiaceæ. The only species grown is S. marilandica, a herbaceous perennial, growing a foot high, and bearing red and yellow flowers in spikes during summer. It is not an easy plant to grow. Is best grown in peaty soil in a partially shady border or bed containing peat-loving plants. Plant in March. Increased by division in spring.

Spiræa (Meadow Sweet).—The Meadow Sweets belong to the Rose order (Rosaceæ), and consist of shrubby and herbaceous species. The former have been dealt with in the section devoted to Trees and Shrubs, so that we have only to discuss the merits and culture of the latter here. The herbaceous species are plants of graceful habit with pinnate foliage, and produce a beautiful effect when growing in the mixed border, in groups on the grass, or when fringing the waterside. All love a moist rich soil and a partially shady position. The following are all very beautiful and worthy of a place in every garden: S. Aruncus (Goat's Beard), bearing handsome plumes of white flowers in June and July, and growing 3 to 5ft. high. A noble plant for the mixed border, grouping on grass, or fringing the waterside. Native Europe. Kneiffi is a dwarf variety of it, with elegantly-cut foliage and white flowers, and growing only 2ft. high; a lovely border plant.

S. astilboides is a Japanese species, growing 2ft. high, and with very graceful foliage and snowy-white flowers borne in drooping panicles in summer. Floribunda is a variety bearing large feathery panicles of white blossom and slightly dwarfer in growth. Suitable for moist borders and for the waterside. S. Filipendula flore pleno (Double-flowered Dropwort) is a native species of tufted dwarf habit, producing double white flowers in panicles a foot or more high in summer. Suitable for the mixed borders. S. kamtschatica (Syn. S. gigantea) grows 6 to 8ft. high, has large pinnate leaves and feathery, white, fragrant flowers borne in large heads in summer. A noble plant for the waterside. S. palmata is a strikingly handsome Japanese species with palmately lobed leaves and crimson stems, and bright crimson flowers borne in large panicles in summer; height 2ft. Alba is a white, and elegans a pale pink form of it. All three are suitable for waterside or moist border culture. S. Ulmaria fl. pl. (Double White Meadow Sweet) is a double-flowered form of the native Meadow Sweet, growing 3 to 4 ft. high; aurea-picta is another variety, with golden blotched foliage. Both are suitable for the moist border or waterside. S. venusta grows 4 to 5ft. high and bears rosy flowers in June; and S. lobata (Queen of the Prairies) grows 4 to 6ft. high and bears rosy-carmine flowers in huge heads in June. Both do best in a shady moist border. S. longifolia, white, borne in long arching plumes; Silver Sheaf, snowy-white; and Snow Plume, ivory-white, are hybrids of great grace and beauty for growing in moist shady borders. The flowers in all cases are very beautiful subjects for cutting, and the last three ought especially to be grown for that purpose. A good, generous, moist soil suit the spiræas best, and they should be planted if possible in autumn. Liberal top-dressings of decayed manure should be given every autumn, and where the plants are grown in borders likely to get dry in summer, copious supplies of water should be given. Occasional applications of weak liquid manure will also be beneficial. Increased by division in autumn or spring.

Spraguea.—The only species grown of this genus is S. umbellata, a somewhat tender Californian, tap-rooted perennial, belonging to the Purslane order (Portulacaceæ). It grows about 6in. high, and bears rosy flowers in dense spikes in summer. The plant is pretty and interesting, and worth growing in mild districts in good, ordinary, well-drained soil on a sunny rockery or in a choice border. Seeds may be sown outdoors in April where the plants are required to flower the following year; or in gentle heat in early spring, planting the seedlings out in May to flower in early autumn.

Stachys (Woundwort).—Hardy perennials, of no special beauty, and suitable only for the wild garden, woodland or shrubbery borders. Lavender order (Labiatæ). S. lanata (Lamb's Tongue), a Caucasian species, with silvery-white woolly leaves, is sometimes grown as a permanent edging to borders, for which purpose it is well adapted. S. coccinea, a Mexican species, bears showy spikes of scarlet flowers in summer, and grows 1 to 2ft. high. Worth growing on a shady rockery or warm border. These do well in ordinary soil. Plant in spring or autumn, and increase by division at the same seasons.

Statice (Sea Lavender).—Hardy annuals, biennials and perennials, belonging to the Thrift order (Plumbaginaceæ). They bear small more or less membraneous flowers in branched corymbs or panicles, which are valuable for cutting for indoor decoration as well as for drying for the same purpose in winter. Elegant and pretty plants for border and rockery culture also. The annual species are: S. Bonduelli, a native of Algiers, golden-yellow, summer, 12in.; S. Suworowi, a native of Turkestan, growing 1ft. high, and bearing masses of lilac blossoms in summer; S. superba, bearing rosy flowers in long spikes in summer, and growing 2ft. high; S. superba alba, white; and S. Thouini, yellow, 18in., a native of S. Europe. These are best treated as half-hardy annuals, raising them from seed in gentle heat in March, hardening off the seedlings in a cold frame early in May, and planting out at the end of May. Or seeds may be sown in a cold frame in September, the seedlings grown on in pots and planted out in April. S. sinuata, purple and white; and S. sinuata hybrida, various colours, 18in., are elegant kinds best grown as biennials, i.e., reared from seed sown in a cold frame in September and planted out the following spring. The perennial species are: S. eximia (Turkestan), lilac-rose, June to August, 1ft., and its variety superba, a seedling form of exquisite beauty; S. Gmelini (Eastern Europe), blue, June to August, 18in., very fine; S. tartarica (Syn. S. incana), S. Europe, ruby-red, June to Sept., 1ft., and its variety hybrida, pink to blue; S. latifolia (S. Russia), blue, June, 2ft., very handsome; S. latifolia alba, white; S. Limonium (British seashores), bluish-purple, July to Sept., 6 to 12in.; S. Limonium alba, white; S. spathulata (Barbary), purple, Aug., 1ft.; and S. tomentella superba, rich violet, summer, 2ft. There are others, but the foregoing are the most beautiful. There is also a mixed strain of hybrids sold by florists which are very pretty and varied in colour, and worth growing for ordinary border decoration and for yielding flowers for cutting. All the Sea Lavenders prefer a sandy soil

and a sunny border. They do not thrive well on heavy cold soils. Add decayed cow manure freely to sandy soils before planting. Plant in autumn or spring. The flowers should be cut for decorative purposes when they begin to open fully. Increased by seeds as advised for the annual species; by cuttings of young shoots in sandy soil in a cold frame in summer; division in autumn or spring.

Stokesia (Stokes' Aster).—The only species grown is S. cyanea, a native of N. America, and a hardy perennial. Daisy order (Compositæ). This species grows 18in. to 2tt. high, is of vigorous growth, and bears blue aster-like flowers in Aug. and Sept. A handsome plant for a warm border. Requires a sandy soil well enriched with leaf-mould or decayed manure. Plant in autumn or spring. Increased by seeds sown in gentle heat in spring, planting out the seedlings in May; also by division in March.

Stylophorum (Celandine Poppy).—A genus of Poppyworts (Papaveraceæ) and hardy perennials, with glaucous pinnate foliage and yellow poppy-like flowers borne in May and June. The only species worth noting are: S. diphyllum, 1ft., N.W. America; and S. japonicum, Japan, 18in. These will thrive in ordinary soil in a partially shaded border. Plant in autumn or spring. Increased by seeds sown outdoors in April; also by division in March.

Swertia (Felwort).—The Swertias are hardy annuals or perennials, belonging to the Gentian order (Gentianaceæ). Only one species, however, is worth growing, and that is S. perennis, a European perennial species, growing 9in. high, and bearing greyish-purple flowers in July. It requires to be grown in moist peaty or boggy soil in partial shade. Plant in spring. Increased by seeds sown in peaty soil in a cold frame in spring; also by division at the same time.

Symphandra.—Hardy perennials, belonging to the Harebell order (Campanulaceæ), and interesting plants to grow in partially shaded borders or rockeries in a well-drained sandy, loamy soil. The most showy species are: S. armenica (E. Europe, blue, June, 2ft.; S. Hoffmani (Bosnia), white, summer, 12 to 18in.; S. pendula (Caucasus), creamy-white, July, 1ft., the best of all; and S. Wanneri (Transylvania), blue, summer, 6in. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring, planting out the seedlings in May; also by division in October and March.

Symphytum (Comfrey).—A genus of hardy herbaceous perennials of somewhat coarse growth, belonging to the

Borage order (Boraginaceæ). The best species are S. asperrimum, a native of the Caucasus, growing 4 to 6ft. high, and bearing first red and then blue flowers in summer. Aureovariegatum is a pretty variety with its leaves bordered with yellow. S. caucasicum grows 3ft. high, and bears blue flowers in summer. S. officinale is a British species of no value for garden decoration, but its varieties bohemicum (Scarlet Comfrey), with crimson flowers; and lutea marginatum, with yellow-margined leaves, are showy kinds. They will all succeed in ordinary soil in shrubbery borders, woodland gardens, or in groups on grass. The variegated kinds do well in mixed borders. Care should be taken to promptly remove any green leaves from the latter. Plant in autumn. Increased by division in October or March.

Tchihatchewia.—The only species of this genus bearing the formidable name just given is T. isatidea, a native of Armenia, and a member of the Wallflower order (Cruciferæ). The plant is a biennial of tufted habit of growth, clothed with silky hairs, and bears rosy-lilac vanilla-scented flowers in racemes in May. A very pretty and showy plant for the rock garden, thriving in ordinary well-drained soil in a sunny spot. Sow seeds in September in sandy soil in a cold frame, grow the seedlings on in pots till March, then plant out. Or sow in April where required to grow.

Tellima.—T. grandiflora is a hairy perennial of tufted growth, with prettily veined and bronzy purple-tinted leaves and greenish-yellow flowers borne in racemes in summer. A native of N. America, and a member of the Saxifrage order (Saxifragaceæ). The plant in question somewhat resembles the Heucheras. There is a variety of it named purpurea with crimson-bronze foliage. The plants grow a foot high, and will succeed in ordinary soil in sun or in shade. Plant in autumn or spring. Increased by division in October or March.

Teucrium (Germander).—Hardy perennials, belonging to the Lavender order (Labiatæ). They are not particularly attractive plants, but may be grown in large gardens where there is plenty of space. The most attractive species are: T. chamædrys (Wild Germander), a native plant, growing 6in. high, and bearing rosy-purple and white flowers in late summer. Suitable for borders, rockeries or walls. T. marum (Cat Thyme), a S. European species, bearing reddish-purple flowers in summer, and growing 1ft. high. T. scorodonium variegata (Variegated Wood Sage), a native plant, with variegated foliage, growing 1ft. high. T. marum will succeed on

old walls or in a dry stony border. T. s. variegata may be grown on a rockery or in a border. Ordinary soil. Plant in spring and autumn. Increased by division in autumn, or cuttings of young shoots in summer.

Thalictrum (Meadow Rue).—Hardy perennials, with foliage resembling that of the Columbine and Maidenhair Fern, and of great value for cutting for use in floral decorations in summer; in fact, they are often called the Hardy Maidenhair plants. Apart from their foliage many of them have pretty yellow, white or purple flowers that add greatly to their attractiveness as garden plants. They belong to the Buttercup order (Ranunculaceæ). The species are numerous, but the following are the most useful and attractive ones to grow: T. alpinum (Britain), leaves glaucous beneath; flowers purple, July; ift. T. angustifolium (N. Europe), leaves finely cut and graceful; flowers yellow; July; 3ft. T. aquilegifolium album (Europe), leaves columbine-like; flowers white, June; 2 to 3ft. T. aquilegifolium, flowers purple. T. glaucum (S. Europe), leaves glaucous; flowers golden-yellow, summer; 6ft. T. glaucum folii variegatum, leaves variegated with golden, silver and grey; very pretty. T. minus (Maidenhair Meadow Rue), a native of Britain; leaves finely cut and glaucous; flowers small and unattractive; height 1ft.; foliage an excellent substitute for Maidenhair. T. minus adiantifolium; leaves small, greyish-blue; height 9in. T. minus rubellum; stems dark; foliage small and graceful; 1ft. Both suitable for cutting. S. sulphureum; flowers sulphur-yellow; 5ft.; flowers and foliage useful for cutting. The dwarf kinds may be grown on a rockery, or on the margins of borders; the tall ones in the mixed border. For yielding a plentiful supply of foliage for cutting, plant 1 to 3ft. apart in beds. Ordinary soil will suffice. They like a partially shady position. Plant in autumn or spring. Readily increased by seeds sown outdoors in April; also by division in autumn or spring.

Thermopsis.—A genus of hardy perennial herbs, belonging to the Pea order (Leguminosæ). They have three-foliate leaves and yellow or purple lupine-like blossoms borne on spikes in summer. The best-known species is T. montana. This is a native of N. America, grows 1 to 2ft. high, and bears bright golden-yellow flowers in profusion. Another attractive species is T. caroliniana, which grows 4 to 5ft. high, and bears golden-yellow flowers. These two will flourish in ordinary soils in sunny borders; in fact, T. montana will do well in dry borders. Plant in autumn or spring. Increased by seeds sown outdoors in April; also by division in October or March.

Thymus (Thyme).—The fragrant-leaved thymes, though usually associated with the kitchen garden, are by no means to be despised as flower garden plants. They are excellent plants for carpeting bare spots on sunny rockeries, slopes or borders. The Lemon-scented Thyme (T. Serpyllum citriodorus); the Golden-leaved Thyme (T. Serpyllum citriodorus aureum); Woolly-leaved Thyme (T. Serpyllum lanuginosus); Fraser's Silver Thyme (T. Serpyllum citriodorus argenteus); White Mountain Thyme (T. Serpyllum albus), white-flowered; Crimson Mountain Thyme (T. Serpyllum coccineus), crimson-flowered; Peppermint-scented Thyme (T. carnosus); and the Azorean Thyme (T. azoricus), are all deserving of a place in the flower garden. Besides being suitable for the foregoing purposes they are also adapted for carpeting small beds planted with choice bulbs. Being evergreen, too, their foliage is attractive all the year round. Plant in ordinary soil at any time. The golden and silver-leaved kinds should be increased by cuttings inserted in sandy soil in a cold frame in August or September; the rest by division. The green forms may also be reared from seed in spring.

Tiarella (Foam Flower; False Mitrewort).—T. cordifolia is a N. American perennial herb, belonging to the Saxifrage order (Saxifragaceæ). It grows about 6in. high, has heart-shaped, hairy, reddish-bronze leaves and small creamywhite, starry flowers borne in erect feathery plumes resembling a wreath of foam. The flowers appear in April, and render the plant an interesting and pretty object when in full bloom. It will succeed in ordinary soil in a partially shady border or on a rockery. Plant in autumn or spring, and lift and divide every two years. Increased by division.

Trachelium (Blue Throatwort).—T. cæruleum is a very pretty perennial, of Italian origin, and a member of the Harebell order (Campanulaceæ). It grows 1 to 2ft. high, and bears large clusters of small blue flowers in summer. There is a white form of it named album. When in flower the plant is a very beautiful object. It likes a warm sheltered position and a well-drained sandy loam, freely mixed with leaf-mould. Plant in spring. Increased by seeds sown in gentle heat in March, the seedlings being grown on and hardened off in May, then planted out in June; also by cuttings of the young shoots in summer.

Trachymene.—T. cærulea, also known as Didiscus cæruleus, is a very pretty half-hardy annual, growing 1 to 2ft. high, and bearing blue flowers in umbels in late summer. This species is a native of W. Australia, and a member of the

Carrot order (Umbelliferæ). Seeds should be sown in light soil in heat in March, and the seedlings afterwards transplanted, and hardened off early in May, planting them in their flowering positions in June. A light rich soil and a sunny position must be provided.

Tradescantia (Spiderwort).—Handsome and showy hardy herbaceous perennials, natives of America, and members of the Nat. Ord. Commelinaceæ. The only species worth growing is T. virginiana. This grows about a foot or so high, and bears violet-blue flowers with yellow anthers in late spring. Alba grandiflora, white; azurea fl. pl., double, blue; delicata, blush-pink; flore pleno, double, purple; pallida, pale purple; rubra, carmine; and rubra fl. pl., double, carmine, are pretty varieties of it. All will thrive in ordinary soil in partially shady borders and flower freely in spring. May be planted in autumn or spring. Good town or suburban garden plants. Increased by division in spring.

Tricyrtis (Toad Lily).—T. hirta is a charming hardy perennial from Japan, belonging to the Lily order (Liliaceæ). It bears curious orchid flowers in the axils of its leaves in autumn, the lance-shaped petals being spotted with purple or crimson. The plant grows about 3ft. high. Nigra is a form of it with velvety black blotches, which flowers a few weeks earlier than the species. These curious plants require to be grown in a bed of sandy loam and peat in a partially shady warm position. Plant in spring, and increase by division at the same season.

Trientalis (Star-flower).—A genus of hardy perennials, with stems 3 to 6in. high, surmounted by a tuft or whorl of leaves, from the centre ci which rise starry white flowers on slender stalks. T. europæa, the species here referred to, is a native of Britain and Arctic Europe, and grows in shady woods. It belongs to the Primrose order (Primulaceæ), and flowers in June and July. A shady border, or a bed of peat or bog-loving plants, is the best place for it. It also does well on partially shady rockeries. Plant in spring and increase by division of its creeping root-stocks in early spring.

Trifolium (Trefoil; Clover).—Very few species of this genus are worthy of a place in the flower garden. The only one we can recommend is T. repens purpureum. This has a broad purple spot on the under sides of each leaflet and small white, fragrant flowers borne in summer. It is often called the Four-leaved Shamrock. A suitable plant for clothing bare spots on dry banks or borders. Plant in autumn. Increased by division. Nat. Ord. Leguminosæ (Pea family).

Trillium (Wood Lily; Trinity Flower) .- Hardy herbaceous perennials, belonging to the Lily order (Liliaceæ), and natives of N. America. All are shade-loving plants suitable for woodland borders, nooks in the hardy fernery, or in the low-lying parts of rockeries. They require a deep, welldrained soil composed of peat and leaf-mould. They should, moreover, be planted in large masses to produce the best effect. Plant in autumn and increase by division at the same season. The leaves are in threes at the summit of the stems and a three-petalled flower is borne in the centre of each group of leaves. The principal species and varieties are as follows: T. cernuum, white, drooping, 18in.; T. erectum, deep red purple, ift.; T. erythrocarpum (Painted Wood Lily), pure white, crimson blotch at base of sepals, 1ft.; T. grandiflorum (Wake Robin), snowy white, large, 12 to 18in.; T. grandi-florum roseum, blush, 1ft.; T. incarnatum (Rose Trinity Flower), rosy-pink, 1ft.; T. recurvatum, purple, foliage marbled, 1ft.; T. sessile, dark purple, 1ft.; T. sessile californicum, creamy white, foliage spotted, 2ft.; T. sessile Snow Queen, large, white, ift.; T. stylosum, large, white, flushed rose, ift. All flower in spring and require plenty of moisture whilst growing.

Trollius (Globe Flower).—Hardy perennial herbs, belonging to the Crowfoot order (Ranunculaceæ). Showy spring and early summer-flowering plants to grow by the waterside or in moist, shady or partially shady borders. They require a deep, rich soil. Decayed manure and leaf-mould should be freely added before planting, and an annual top-dressing of the former be given in spring. The showiest kinds are: T. asiaticus fl. pl. (Asia and Japan), flowers double and rich orange in colour; 12 to 18in. T. caucasicus (Caucasus), flowers orange yellow; 1 to 2ft. T. caucasicus Orange Globe, flowers deep rich orange; 2ft.; very fine. T. europæus (Europe), flowers pale yellow, fragrant, June to August; 1 to 2ft. There are several varieties of it, as giganteus, large flowered; albus, white; and aurantiacus, orange. Best planted in autumn. Increased by division in October.

Tropæolum (Dwarf Nasturtium).—There are, of course, tall and dwarf forms of Tropæolums or Nasturtiums, but having dealt with the former in the section devoted to climbers, we shall pass them by here and deal with the dwarf kinds only. The Dwarf Nasturtium was originally a sport from the Tall Nasturtium (T. majus), and the present race has been obtained by many years of careful and patient selection of new types by our leading seedsmen. Anyone may

obtain a good variety of shades of colour from a mixed packet of seed, and these are good enough for ordinary garden decoration, but if a special colour or a really good type of plant is required, such as for growing in beds, then named varieties must be resorted to. There are single and double named varieties. The best doubles are Hermione Grasshoff, orange-scarlet; and grandiflorum plenissimum, yellow, with a maroon blotch on each petal. These can only be perpetuated by cuttings in heat in spring or summer. The single varieties that are specially suited for bedding, because of their compact dwarf habit, are Mrs. Clibran, yellow; Bedfont Rival, scarlet; Vesuvius, brilliant scarlet; and The Moor, maroon. These also require to be increased by cuttings to keep them true to habit and colour. Named sorts that can be reared from seed are Tom Thumb, scarlet; Crystal Palace Gem, yellow; Empress of India, crimson; King Theodore, brownish-purple; Ruby King, purplish-red; and Terra-cotta, various pretty art tints of buff, etc. These come fairly true from seed. Nearly all seedsmen, however, have their own specially selected mixed strains, which yield a charming variety of colour. Seeds may be sown in the beds or borders in March or April where required to flower, the plants being afterwards thinned out in showery weather to 8 or 12in. apart. The thinnings may be used to fill up vacancies, or seeds may be sown in gentle heat in March, the seedlings grown on in boxes and planted out in May. Nasturtiums do best in rich soils in sunny positions, their vigour and duration of flowering being greater than when sown in poor hungry soils. They may be grown in beds in mixture or in lines of different colours; as edgings to borders, or in bold masses in the border; or utilised in conjunction with the tall kinds for filling vases in summer. The Nasturtium belongs to the Geranium order (Geraniaceæ).

Tunica.—There is only one species of this genus grown in gardens, and that is T. Saxifraga, a native of the Alps, and a dwarf perennial, growing 3in. high, and bearing rosy blossoms in loose panicles in July. It belongs to the Carnation order (Caryophyllaceæ), and is suitable for growing in the chinks or crevices of old wells, or among small stones on a sunny rockery. Ordinary soil will suffice. Plant in spring. Increased by seeds sown in April where required to grow, or in cold frames in spring or autumn, the seedlings being planted out later on. Also by division in March.

Tussilago (Coltsfoot).—The variegated form of T. Farfara, a British weed, is sometimes grown in damp shady borders, either as an edging or in masses among ferns and other shade perennials. It often does also on stony banks. The leaves are green, blotched with yellow. Ordinary soil. Plant in autumn. Increased by division. Daisy order (Compositæ).

Ursinia.—U. pulchra, better known as Sphenogyne speciosa, is a hardy annual, a native of S. Africa, and a member of the Daisy order (Compositæ). The plant grows about a foot high, and bears yellow flowers with a purplish-black zone at the base of the petals in summer. Aurea is a variety with a yellow centre. A showy annual for sunny borders and a light soil. Sow outdoors in April and thin out the seedlings to a foot apart; or sow in heat in March, harden off in April, and plant out in May.

Uvularia (Bellwort).—Hardy herbaceous perennials, members of the Lily order (Liliaceæ), and natives of N. America. U. grandiflora is the only species worth growing, and this has slender stems and long, drooping, bell-shaped yellow flowers borne in early summer. It grows ift. high, and requires to be grown in peaty soil in a shady border or on a rockery. A very graceful and pretty plant. Plant in autumn or spring, and increase by seeds sown in peaty soil in a cold frame in spring or autumn; or by division in October of March.

Valeriana (Valerian).—Rather weedy perennials, belonging to the Nat. Ord. Valerianaceæ. The only kind worth growing is the Golden Cretan Spikenard (V. Phu aurea). This is very attractive in spring and early summer, its golden shoots showing up well in the mixed border. It grows 2ft. high, and bears white flowers in summer. Plant in autumn in ordinary soil in a damp shady border. Increased by division in March.

Vancouveri (Barrenwort).—A graceful and very pretty little evergreen perennial is V. hexandra, a native of N. America. It grows about a foot high, has purple-tinted fern-like foliage and pearly white blossoms born in graceful panicles in spring and early summer. It belongs to the Barberry order (Berberidaceæ). An attractive plant to grow in a moist shady bed on the rockery in peaty soil. Plant in autumn or spring. Increased by seeds sown in sandy peat in a cold frame in autumn or spring; also by division in October.

Venidium.—V. calendulaceum is a South African perennial, bearing marigold-like flowers, yellow with a dark centre, in summer and autumn. It grows about a foot high. Although a perennial it is best treated as a half-hardy annual, seeds being sown in gentle heat in March, and the seedlings planted



THE CAPE LILY (CRINUM LONGIFOLIUM ALBUM).

See p. 254 for description and culture.



A PRETTY HARDY BULBOUS PLANT (BABIANA PLICATA).

See p. 250 for description and culture.

out in May. For late blooming seeds may be sown outdoors in May. Grow in warm, dryish sunny borders. Sulphureum is a sulphur-yellow variety well worth growing. Daisy order (Compositæ).

Veratrum (False Hellebore).—The Veratrums are herbaceous perennials, belonging to the Lily order (Liliaceæ), and handsome plants to grow in shady borders in a rich soil containing plenty of leaf-mould or peat. They have bold foliage and purplish-green or white flowers borne in large panicles in July. The two species generally grown are V. album (White Hellebore), a native of the Caucasus, growing 3 or more feet high, and bearing greenish-white flowers; and V. nigrum (False Hellebore), a native of Central Europe, growing 2 to 3ft. high, and bearing blackish-purple flowers in racemes 2 to 3ft. long. The roots are poisonous. Plant in autumn. Increased by division in October.

Verbascum (Mullein).—Hardy perennials or biennials, belonging to the Foxglove order (Scrophulariaceæ), and plants of handsome and stately growth for border culture. best species are: V. Chaixi (S. Europe), leaves green above and woolly beneath; flowers yellow with purple filaments; summer; 4 to 8ft.; perennial. V. olympicum (Levant), leaves woolly beneath, green above; flowers golden-yellow; summer; 6 to 10ft.; biennial. V. phlomoides (S. Europe), leaves green; flowers, bright yellow; summer and autumn; 4 to 8ft.; biennial. M. phœniceum (S. Europe), leaves green, downy beneath; flowers, purplish; summer; 3ft.; biennial. There are a number of hybrids of the latter species with purple, lilac, rose, or white flowers, which are very beautiful. The foregoing are fine plants to grow singly or in groups in mixed borders; or in shrubbery or woodland borders; will grow in ordinary rich soil. All require to be raised from seed sown outdoors in April, afterwards transplanting the seedlings to their flowering positions in showery weather. Seed may also be scattered in bare spots to ensure a colony of plants. Many will, like Foxgloves, reproduce themselves freely from seeds.

Vernonia (Ironweed).—Only one species of this genus (V. novæboracensis) is worth growing. This is a hardy perennial, growing 5ft. high, with purplish stems, and deep crimson-purple flowers borne in autumn. A native of America, and a member of the Daisy order (Compositæ). A suitable plant for the shrubbery border or wild garden. Will grow in ordinary soil and should be planted in autumn. Increased by division in spring.

Veronica (Speedwell).-Hardy herbaceous and alpine

perennials, belonging to the Foxglove order (Scrophularia-There are also several shrubby species which are referred to elsewhere. The alpine species, which are of tufted or trailing habit, and suitable for rockery culture, are: V. repens, a Corsican trailing species, bearing pale blue flowers in May; V. pectinata rosea, a Syrian species, bearing rosy flowers in May, and growing 2in. high; V. satureoides, a native of Dalmatia, growing 3in. high, and bearing blue flowers in May; V. incana, a Russian species, with silvery-grey foliage, growing 6in. high, and bearing violet flowers in summer; V. saxatilis, a Scottish species, growing 6in, high, and yielding bright blue flowers in July; and V. Teucrium, dubia, or prostrata, a dwarf kind bearing blue flowers in early summer. The latter and V. repens make splendid edging plants for borders or dry banks, the evergreen foliage forming a dense carpeting of growth. All will succeed in good ordinary soil in sunny positions. The taller kinds, which are suitable for sunny borders and ordinary good soil are: V. gentianoides (Caucasus), greyish-blue, June, 1ft.; V. gentianoides alba, white; and V. gentianoides fol. variegatus, variegated foliage. V. longifolia (C. Europe), lilac, white, rose or purple, Aug., 2 to 4ft.; V. longifolia rosea, rose, excellent for cutting; V. longifolia subsessilis, purple-blue; V. longifolia alba, white. V. paniculata (Syn. V. amethystina), a native of S. Europe; blue; summer; 2 to 3ft. V. spicata (Britain), blue; July and Aug., 12 to 18in.; V. spicata hybrida, purple, lavender or rose. S. Teucrium, pale blue; summer; 8 to 12in. All the foregoing species may be planted in autumn or spring. Increased by seeds sown outdoors in April; division in autumn or spring.

Vinca (Periwinkle).—Hardy perennials of a trailing habit of growth, belonging to the Nat. Ord. Apocynaceæ. V. herbacea, a native of Eastern Europe, is a herbaceous species the shoots of which die down in winter. It bears purple flowers in spring and early summer, and is suitable for rockery culture. V. major, a native species, is a vigorous grower with woody stems, and bears purple flowers in spring. Alba is a white variety, and elegantissima a variegated form with leaves marbled with creamy-white. V. minor (Lesser Periwinkle) is a small growing native species with violet flowers, and purpurea, purple; purpurea fl. pl., purple, double-flowered; and variegata, with golden or silver-tinted leaves, are varieties of it. The Periwinkles are suitable plants for growing under the shade of trees, woodland borders, shady borders or rockeries. The variegated ones, too, make good edging or rockery plants. Plant in autumn or spring in good ordinary soil. Increased by

division in autumn or spring.

Viola (Violet; Pansy; Heartsease).—The Viola family is

an extensive one and embraces the Tufted Pansy or Viola, Violetta, Pansy and Violet, three very popular classes of garden flowers. They belong to their own special order, the Violaceæ.

TUFTED PANSY OR GARDEN VIOLA.—The popular name of Tufted Pansy has been given to the dainty type of flowers originated from a cross between Viola cornuta and the ordinary Pansy. The name is perhaps hardly appropriate to some of the varieties, since they are anything but tufted in habit. However, the name has become popular, and it affords some clue to the class of plants it refers to, and so we use it here. Garden Violas would probably be a more appropriate name. The varieties in this section are noteworthy for their dainty colours, more or less dwarf tufted habit and for their great freedom and duration of flowering. They are excellent plants for massing in beds; carpeting the surface of beds under tall plants; edging or massing in borders. It is possible by removing the spent flowers regularly, and not allowing seed pods to develop to have a succession of flowers from spring to late autumn. To our mind they are infinitely superior in form, colour and general excellence as garden flowers to the Pansy proper, and no one who has grown them once will ever

discard these charming flowers.

To grow the Tufted Pansy or Garden Viola well the soil should be deeply dug during the winter, and heavily enriched with well rotted manure. Heavy soils should have plenty of leaf-soil, wood ashes and rotten horse manure added, and the lighter soils decayed cow manure. Soils thus well prepared will grow these dainty flowers to perfection. As to position, in the south a partial shade is preferable, or at any rate, shade from the midday sun; but in the Midlands and north they require full exposure to the sun. Seedlings reared in summer may be planted in their flowering positions in autumn, but cuttings rooted in early autumn are best planted out in March. The plants should be placed 10 to 12in. apart each way. In the earlier stages of their growth the surface of the soil should be frequently stirred with a push or a threepronged draw-hoe to aerate the soil, cut off the capillary tubes. arrest evaporation of moisture and prevent the growth of weeds. In very dry weather a good watering in the evening will also be beneficial. During the summer keep all spent blooms removed, and once a month at least it is a good plan to remove all the flowers to give the plants a rest. treatment will ensure a bright and prolonged display blossom up to November. In August and September cuttings should be taken and inserted in shallow frames in soil previously prepared by forking it over, adding some leaf-soil and

sand. Make the soil fine and level, press it down moderately firm with a flat board, and then by means of a narrow strip of wood mark off lines three inches apart. In these lines insert the cuttings two inches apart, press down the soil firmly around them, water thoroughly, and keep close and shaded for a few days. Afterwards gradually admit air, and on fine days expose fully to the air, replacing the sashes on wet days and at night only. In frosty weather keep the frames closed, except when the sun shines, and throw a garden mat over the glass at night. Early in March expose fully to the air night and day, and then plant out in the garden. The cuttings should be taken from the young shoots that issue from the root-stock of the plant, and not from the coarse flowering shoots. Some of these young shoots will have roots attached; others not. The latter should be about zin. long, have their base cut off close to a joint, and the lower pair of leaves removed. As the cuttings are made throw them into a pail of water, and finally rinse them in clean water before inserting them in the frame. Some sorts are shy in producing cuttings. To encourage the growth of young shoots cut off the flowering ones early in August. Tufted Pansies are readily raised from seed. Excellent strains are sold by specialists, and from these an infinite variety of colours may be obtained for massing in beds and borders. Seed may also be saved from choice named kinds, gathered when the pods turn brown, placing the latter in muslin bags and suspending these in an airy shed till quite dry. The pods should be rubbed in the hands, the seed collected and stored in packets till wanted. To have flowers the same year sow in gentle heat in March, transplant the seedlings into boxes, grow in heat till the end of April, then harden off and place out in May. For flowering early the next year sow in a shady bed outdoors in April, transplant the seedlings 8 to 10in, apart in a nursery bed in partial shade in June, and finally plant in their flowering positions in September or October.

For carpeting beds or borders in distinctive colours and flowering profusely the following kinds are recommended: Councillor Waters, purple; Seagull, white; Peace, blush; Mrs. E. A. Cade, yellow; John Quarton, mauve; J. B. Riding, mauve-purple; Marian Waters, pale mauve; Belfast Gem, heliotrope; Cream King, cream; Primrose Dame, primrose; Ralph, grey-lilac; and Mrs. W. Greenwood, canary-yellow. A selection of specially choice varieties for borders or beds is as follows: Admiral of the Blues, blue, rayless; Amy Barry, pink and white; Belfast Gem, yellow; Blanche, creamy-white; Bridal Morn, heliotrope-blue, rayed; Cochrane, yellow and puce; Colonel Wolferstan, white, bordered purple, rayless;

Councillor Waters, purple; Cream King, cream; E. C. Barlow, creamy-white, rayed; Iliffe, cream, heliotrope tinted, rayless; Iris, yellow, tinted heliotrope, rayed; John Quarton, mauve; Miss Harding, mauve, rayless; Mrs. E. A. Cade, yellow; Mrs. Chichester, purple and white, rayed; Mrs. W. Greenwood, canary-yellow; Niobe II., white; Peace, blush, rayless; Perseus, bluish-purple, rayed; and Primrose Dame, primrose, rayed.

VIOLETTA OR MINIATURE VIOLAS.—This is a race of plants of which at present comparatively little is known. It originated in the garden of the late Dr. Stewart, of Chirnside, N.B., who succeeded in crossing a garden pansy with Viola cornuta. The progeny of this cross gave us a very beautiful little rayless flower, borne on long stems, and developed on plants with a beautifully compact and procumbent habit, and was named by the raiser "Violetta." This is the first plant of the new type recognised as being of any value, and being a particularly good one was regarded as an excellent type for the new race to be built upon. Little was done for years after this, except occasionally a keen enthusiast enriched our collections with one or two new varieties, each of which had a charm peculiarly its own, and which, when properly grown and in proper quarters, seldom failed to create a most delightful effect, and to please those whose good fortune it is to possess them. Of late years Mr. D. B. Crane has devoted considerable attention to raising new and choice sorts, and has been fortunate in giving to the world quite an interesting series of most delightful flowers. These range in colour from purest white to creamy-white, primrose-yellow, pale blue, deep blue, and blush-coloured sorts, and there is a prospect, in the near future, of adding other new and pleasing tints of colour, which will enhance the value of these plants for garden embellishment in no small degree. The Violettas in almost every instance are beautifully sweet-scented. The original of the type "Violetta" has quite an almond-like perfume, and those of more recent introduction are very similar in this respect, although there is a variation in the perfume in many of them. They are most dainty flowers, the majority of which rarely exceed one inch in diameter. Some are of oval shape, others quite circular, and their form is of the most perfect description. What enhances their beauty, too, is their very beautiful rayless character; the rays or pencillings running from the eve—so often seen in the larger Violas—being absolutely effaced in these newer flowers. They are specially well adapted for the rock garden, where, if planted in colonies of about half-a-dozen plants in each, they will in the course of the season form a dense crop of growth, and from April onwards

give a most delightful display and make the rock garden a place of beauty when most of the other subjects are past their best. The constitution of most of them is robust, and their dense and tufted habit of growth, in some cases, being beautifully spreading, yet delightfully dwarf, makes them specially well-suited for the rock garden and similar positions. We have seen them used as an edging to very long borders. We know of an instance where fully one hundred yards of a border abutting a carriage drive has been used for the purpose of displaying their beauty and value. We may here remark that some of the flowers are not more than three-fourths of an inch, or rather less, in diameter, and clumps two years old studded with these dainty little flowers become "a thing of beauty and a joy for ever." Unlike the more rampant-growing, large-flowered Violas, these plants may be cut back at the end of their flowering season to quickly develop a beautiful tuft of considerable size, and provided the ground is well mulched with a good and lasting manure, these plants may remain in the same position two or three years in succession, in which case they increase in size, and their display is even more floriferous than usual. They may be grown also in the front of a hardy border, where colonies of a dozen in each contrast pleasingly with other dwarf-growing subjects immediately adjoining. The Violettas revel in good soil, and unless this is forthcoming it is useless to expect to achieve good results. The ground in which they are to be planted should be deeply dug and good lasting manure freely incorporated. Following is a list of new and standard varieties of this charming race of

VARIETIES.—Claribel, colour white ground, prettily margined blue, suffused yellow on lower petal, nice habit; Cynthia, pale blush lilac of oval form, rich vellow eve, creeping habit, strong grower; Diana, pretty primrose flower, suffused yellow; Eileen, charming deep blue flower, neat vellow edge, free flowering, splendid constitution; Estelle, smallest of the miniatures, pure white, slightly suffused yellow, very dainty; Grace, purest snow-white flower of ideal form, neat yellow eye; Lavinia, beautiful blush-lavender, veined a deeper shade, splendid creeping habit, vigorous; Lucretia, pale creamy-white, suffused yellow on lower petal, good habit, free flowering; Minerva, pretty lavender-blue, shaded white on lower petal, compact habit; Miss G. Jekyll, dainty little bicolor, lower petals rich yellow, upper petals primrose, sturdy grower; Mona, charming little deep blue flower with yellow eye, not unlike "Rock Blue"; Olivia, interesting flower, colour white, tinted lavender blue, yellow suffusion on lower petal, good habit; Proserpine, palest blush, almost white, neat orange eye, good form, creeping-like growth; Sweetness, another minute blossom, pure white with yellow eye, good substance; Thisbe, beautiful pale blush flower, with pale yellow eye, free flowering, compact habit; Blanche, clear silvery-white, splendid habit; Canary pretty bright vellow; Commodore Nutt, bright vellow; free flowering circular rayless blossom; Cymbeline, a profuse flowering plant, colour lavender, paler early in the blossoming season, good habit; Forget-me-not, white, broadlymargined bluish-lavender, very free; Gold Crest, rich, deep golden-yellow, a profuse bloomer; Minnie Warren, pretty blush-lilac, very dainty, long flower stalks; Picotee, pure white, edged like a picotee; Pigmy, rosy-purple, self, good for edgings; Quail, white, broadly-margined, bluish-lavender; Queen of the Year, China blue, sometimes flecked with white; Robin, small pale blush flower, very free; Rock Blue, charming little deep blue flower, with effective, rayless yellow eye, perfect tufted habit; Rock Yellow, dense yellow, perfect shape, sturdy grower; Violetta, pure white, suffused yellow on lower petal, very sweet-scented, beautiful habit; White Dot, pretty little rayless white, compact habit.

FANCY PANSY.—The ideal flower of the florists is a circular one with flat and smooth, thick and velvety petals lying closely over each other and having wavy or crinkled edges; a solid, bright orange eye; large blotches of colour, with a narrow belt or margin of another colour on the three lower petals; the top petals the same colour as the marginal blotches; colour sometimes suffused; size 1½ to 2in. in diameter. These, of course, are the points of an exhibition flower. In a general way the same characteristics hold good of Fancy Pansies generally, including what are known as French and Belgian Pansies. The Pansies sold by hawkers and florists in the spring belong to the Fancy type. They are noteworthy for their rich and gaudy colours, robust growth and free-flowering properties. Named sorts may be obtained from specialists, or seeds of a good strain may be procured from seedsmen. In the case of cuttings prepare these and plant out in March in rich soil precisely as advised for Tufted Pansies, except that the plants should be placed a foot apart owing to their stronger growth. These Pansies like a cool soil. On hot and dry soils their beauty is short-lived. Where the soil is at all light add plenty of decayed cow manure to conserve moisture. Remove all flowers, too, at the time of planting and until the flowers are established, and do not allow seed-pods to form if plenty of flowers be desired. The flowering season will be prolonged if the whole of the flowers are removed now and then to give the plants a rest. Seeds may be sown in gentle heat in February or March, the seedlings transplanted into boxes, hardened off in April and planted out in May to flower in summer. Or they may be sown in a shady border outdoors in July, the seedlings transplanted 6in. apart in a nursery bed in August, and finally planted in their flowering positions in October to blossom in spring or early summer. Following are twelve good named varieties: Col. M. R. G. Buchanan, dark blotches, margins amber, top petals violet and amber; Marmion, violet blotches, laced with rosywhite, upper petals, lavender to white; Mavourneen, violet blotches, edges lemon and magenta, upper petals lemon, purple and magenta; Miss Neil, velvety blotches, edges white, laced crimson; Mrs. George Keen, blotches purple edged with vellow, upper petals purple and cream; Mrs. Neil, blotches violet shaded crimson, and edged with yellow, upper petals violet; Mrs. T. W. Sanders, dense blotches on yellow ground; Mrs. W. Lockwood, blotches velvety-purple, edged crimson and white, upper petals purple laced with white; Tamworth, yellow, dark blotches on a yellow ground; Tom Walters, purple blotches edged purple and maroon; White Prince, blotches brown edged with white; and Evelyn Ritchie, blotches violet edged with white, upper petals veined and banded with clear violet.

Show Pansy.—This is a type of Pansy formerly grown extensively for exhibition. Its points from the florist's view are as follows: Blooms circular, flat and smooth, without wavy or crinkly edges; petals thick, velvety and lying closely over each other; principal or ground colour of three lower petals pure white or yellow; dark circular blotch in centre of flower; orange eye; dark narrow belt of same colour as upper petals to three lower petals; diameter 13in. The flowers are further classified into sections as Yellow Grounds, White Grounds, also Dark, White, Primrose and Cream and Yellow Selfs. These pansies are more difficult to grow than the other types, and rarely do well in the south or warm parts of England, thriving best in the cooler and moister climate of the north. They require a rich soil and a partially shady moist position, and ought preferably to be planted in autumn. Named sorts are to be had from florists, and very good flowers can be obtained from a mixed packet of seed sown as advised for Fancy Pansies. We, however, do not attach much importance to this type of Pansy for garden decoration, the Tufted and the Fancy types being far superior in beauty and easier to grow.

SWEET VIOLETS.—Of all the Viola family the Sweet Violet is one of the most pleasing, sweet and beautiful. Its modest fragrant flowers are always highly esteemed, whether growing in the garden and permeating the air with its exquisite odour, or used as a buttonhole or spray, or arranged as a

posy in a vase in the house. Everybody has a keen desire to grow them, but only those who dwell in the country, away from a smoke-laden atmosphere, really succeed in growing them well. It is sheer waste of time to attempt to grow them in suburban gardens. In the warmer parts of the kingdom violets may be had in flower from autumn to spring in the open garden, but in less favoured parts it is necessary to grow them in the open during summer, lift and replant them in frames in autumn to vield their flowers. The best site for a violet bed is a border under a wall or fence facing northeast, or under the shade of fruit trees. The soil should be deeply dug and have plenty of rotten manure added freely to it. If inclined to be heavy add decayed leaves and burnt refuse as well as manure. Do the digging in fine weather. Early in April fork the surface over, make it fine, and if light, tread or roll it moderately firm. About the middle of the month divide the old plants into single crowns and plant these gin. apart each way. In dry weather give the plants a good watering in the evening, hoe the soil between the plants once a week, and keep all runners cut off. In July and August a dusting of guano may be given at the rate of a handful per square yard in rainy weather. This code of treatment will ensure strong vigorous plants and plenty of flowers. In September, if it be desired to grow the plants in frames, the plants should be lifted and planted a foot apart therein. The frame should be placed on a bed of partially decayed manure and have 6in. of good compost—three parts loam to one of leafmould-placed on top to receive the plants. Let the frame slope to the south. Give a good watering, and keep the frame closed and shaded from sun for a day or two, then admit air freely by day. In severe weather cover the glass with mats or litter, and also pack a good thickness of the latter round the frames. Directly the frost disappears, remove the covering and admit air freely. Violets dislike damp and need all the air possible in genial weather. In spring the plants in the frames can be divided and replanted again in the open. The best varieties of violets are as follows: Singles.-Amiral Avellan, reddish-purple; La France, violet-blue; Princess of Wales, blue, flowers large and borne on long stalks, one of the finest single violets; Russian, dark blue; White Czar, white; California, blue, large flowers. Doubles: Comte de Brazza, white; Marie Louise, mauve-lavender; Neapolitan, lavender, white eve; Lady Hume Campbell, lavender blue; and Mrs. Arthur, dark blue.

MOUNTAIN VIOLETS.—These are species, mostly natives of the Alps, that are interesting plants for cultivation on rockeries. The best of them are: V. biflora (Two-flowered Yellow Violet), yellow streaked black; April to June; 3in. V. calcarata (Spurred Violet), light blue or white; June; 3in. V. cornuta (Horned Pansy), pale blue, fragrant; May; 4 to 6in. V. cornuta alba, white. The last two are specially adapted for edgings to borders. V. cucullata (American Violet), pale blue or purple; June; 4 to 6in. V. pedata (Bird's Foot Violet), an American species, bearing bright blue flowers in May. These are adapted for rockery culture in good ordinary soil. A moist partially shady position is best for them. Plant in autumn or spring. Increased by division in spring.

Waldsteinia (Barren Strawberry).—Hardy perennial herbs with creeping stems, and belonging to the Rose order (Rosaceæ). They are suitable only for rough, dry rockeries and dry banks. The only two species worth growing are W. fragarioides (N. America), flowers yellow, borne in summer; and W. trifolia (E. Europe), yellow, spring and summer. Ordinary soil. Plant in spring. Increased by division.

Walenbergia (Tufted Harebell).—Hardy perennials, allied to Campanulas and belonging to the same order (Campanulaceæ). W. hederacea is our native Ivy-leaved Harebell, better known as Campanula hederacea. It grows on moist bogs, has thread-like creeping stems, and pretty pale blue flowers borne in August. Suitable for a moist, shady rockery. W. dalmatica, a native of Dalmatia, is a dwarf tufted species bearing violet-blue flowers in July and August. Adapted for rockery culture. W. pumilo is another tufted Dalmatian species, growing 3in. high, and bearing reddish-lilac flowers in early summer. Suitable for rockery culture. Other species of less merit are: W. gracilis, blue; W. serpylifolia, purpleblue; and W. saxicola, pale lilac. All are easily grown in good ordinary soil on sunny rockeries. Plant in spring. Increased best by seeds sown in autumn or spring.

Wulfenia.—W. carinthiaca is a perennial herb, growing 12 to 18in. high, and bearing purplish-blue flowers in summer. It is a native of the Carinthian Alps, and belongs to the Foxglove order (Scrophulariaceæ). An interesting and pretty plant to grow on a sunny rockery in moist sandy loam. Plant in spring. Increased by division.

Xanthisma.—The only species grown is X. texanum, also known as Centauridium Drummondi. It belongs to the Daisy order (Composite), and is a half-hardy annual, a native of Texas, grows 2 to 3ft, high, and bears citron-yellow flowers in summer. A very pretty and but little grown annual. Sow

seeds in light soil in gentle heat or on a hotbed in March, harden off the seedlings early in May and plant out a foot or so apart at the end of that month in a sunny border.

Xeranthemum (Everlasting Flower).—The only species grown is X. annuum, a hardy annual, native of S. Europe, growing 2ft. high, and bearing violet-purple flowers in summer. Album, white; multiflora, white, purple or violet; superbissum, various colours, and Tom Thumb, dwarf, are pretty forms. Sow the seeds outdoors in April where required to grow, and thin out the seedlings later to 6in. apart. When the flowers are freely expanded gather with long stalks, tie in bunches head downwards, and hang in a shed to dry for winter decoration. Daisy order (Compositæ).

Xerophyllum (Turkey's Beard).—Hardy herbaceous perennials, belonging to the Lily order (Liliaceæ), and natives of N. America. X. asphodeloides has grassy leaves and white flowers borne in spikes on stems 2 to 4ft. high in May. Tenax is a variety with larger leaves. A suitable plant to grow in peaty soil in a partially shady border. Plant in autumn or spring. Increased by division in autumn.

Zaluzianskya.—Half-hardy annuals from the Cape, and better known under the generic name of Nycterinia. They belong to the Foxglove order (Scrophulariaceæ), and are adapted for growing in beds or in groups in sunny borders. The only species worthy of note are Z. capensis (Syn. Nycterinia capensis), white, night-blooming and vanilla-scented, spring and summer, ift.; and Z. selaginoides (Syn. Nycterinia selaginoides), pink with yellow eye, fragrant at night, blooming in May, height 6 to 9in. Sow seeds in light soil in heat in March, transplant the seedlings when large enough to handle, harden off in May, and plant out 4 to 6in. apart in June. Ordinary soil.

Zauschneria (Californian Fuchsia).—Z. californica is a shrubby perennial, which possesses the excellent merit of yielding a crop of showy red flowers in September and October when the beauty of other flowers is beginning to wane. It grows ift. high, and belongs to the Evening Primrose order (Onagraceæ). Coming from California and Mexico it requires to be grown in a warm position and a well-drained soil. It does well on a rockery or at the base of a sunny wall. Plant in spring. In severe weather protect the crowns of the roots with litter or ashes. Increased by seed; cuttings of side shoots in autumn; division in spring.

HARDY BULBS AND TUBERS.

Allium.—A genus of bulbous-rooted plants of the Onion tribe and belonging to the Lily family (Liliaceæ). In most of the species the foliage when bruised has an unpleasant smell. A few of the species are, however, very pretty and worthy of culture on the rockery, in the border, or for naturalising in woodlands and copses. Ordinary soil will suit their requirements. Plant the bulbs 4in. apart and the same in depth in September or October. Left to themselves they will multiply and thrive for many years. Good kinds for general culture are A. cæruleum, blue; A. Moly, yellow; A. roseum, rose; A. neapolitanum, white; and A. narcissiflorum (Syn. A. pedemontanum), rosy-purple. All flower in summer and are readily increased by seeds or offsets. Natives of Europe and Siberia.

Alstroemeria (Herb Lily).—This genus belongs to the Amaryllis family (Amaryllidaceæ), and constitutes a very showy and handsome class of hardy border flowers. They have tuberous roots, grow from 2 to 3ft. high, and bear very pretty variously-tinted flowers throughout the summer. No difficulty will be experienced in growing these charming plants by those who possess a deep sandy soil, but where the soil is of a heavy or damp nature it will be needful to prepare a special bed. In this case choose a sunny sheltered corner, or a border at the base of a south wall, and dig out the soil to a depth of at least 3ft., then put in 6in. of brick rubble to serve as drainage, and cover this with a layer of partly decomposed manure. Fill the remaining space with a compost of equal parts peat, leaf-mould, and sandy loam. Let the bed remain for a week or so to settle down, then plant the tuberous roots a foot apart and 6in. deep. October is a good time to plant. Where the soil is naturally sandy in texture, simply trench it three spits deep, and mix plenty of decayed cow manure with it. Subsequent cultural details consist of mulching the surface of the bed freely in autumn with decayed manure, and giving plenty of water in dry weather. Unless seed is required, the dead flowers should be removed directly they fade. growths should on no account be cut off till they are quite dead. Alstromerias are easily reared from seed. Prepare the bed as advised, then sow the seeds in groups of three or four seeds 3in. deep as soon as ripe or the following March. Seeds may also be sown three or four in a 4-in. pot of sandy soil,

but the seedlings must not be interfered with for a year. Seedlings begin to flower when one to two years old. The best kinds to grow are: A. aurantiaca, golden-yellow; A. chilensis, various shades of red and pink; A. lutea, yellow; A. pulchella (Syn. A. psittacina), crimson; A. versicolor, various colours, a hardy and easily grown species. Natives of China and Peru.

Amaryllis (Belladonna Lily).—A bulbous-rooted perennial, belonging to the Nat. Ord. Amaryllidaceæ. Coming from the Cape of Good Hope it requires a warm position and a well-drained medium soil. The best position in which to grow this charming plant is at the foot of a hot-house, vinery or house wall facing south. If the soil is not naturally well drained, dig it out to a depth of 3ft., put a good layer of brick rubble on top, followed by a layer of decayed cow manure. Mix the natural soil with equal proportions of leaf-mould, decayed manure and grit, and fill up the trench with this, then plant the bulbs 6in. deep and 8 to 12in. apart. Make the soil firm. Plant in September or October and cover the bed with fern litter or leaves as a protection from frost and heavy rains. Once properly planted, do not interefere with the bulbs for many years. The species—A. Belladonna—bears soft, rosycoloured, sweet-scented flowers on stems a foot or more high in August and September, after the leaves have died. New growth begins in early spring and continues till summer, then the foliage dies. There are several varieties, of which blanda, with large white or pale flowers and longer and broader leaves, and pallida, very pale rose flowers, are the most noteworthy.

Anemone.—See Hardy Perennial section (p. 94) for culture of tuberous-rooted anemones.

Arum (Dragon's Mouth; Dragon Plant).-A genus of hardy, tuberous-rooted herbaceous perennials, noteworthy for their grotesquely formed and curiously coloured inflorescence. They belong to the Nat. Ord. Araceæ. A. crinitum (Dragon's Mouth) grows upwards of 20in. high, has narrow-lobed leaves and purple-spotted stems. The flowers consist of a cylindrical hairy spadix furnished with small blossoms, and surrounded by a curiously formed spathe, spotted or blotched with purple on the outside and hairy within. When fully developed the flowers emit a carrion-like odour. A. Dracunculus (Dragon's Plant) grows nearly 3ft. high, has lanceolate, veined leaflets, and stems marbled with black. The spadix is erect, brownish-red, and the spathe green outside and violetpurple on the inside. A. italicum (Italian Arum) grows 20 to 24in. high, has hastate green leaves veined with yellow, a vellowish or creamy spadix and a green spathe. The two

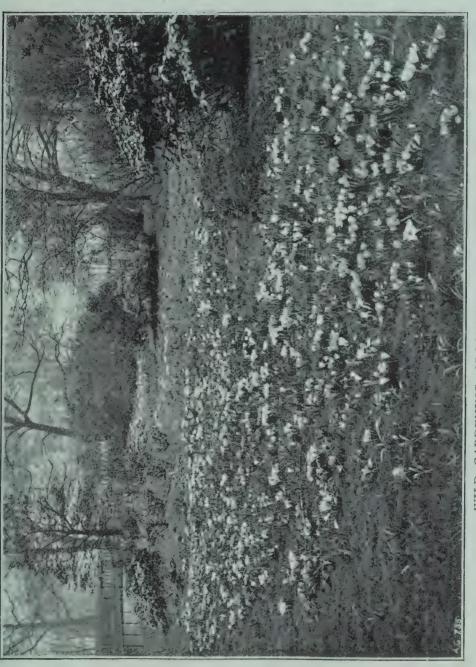
former flower in summer, the latter in spring. In autumn the spadix is generally covered with scarlet berries which are very effective. These quaint plants will succeed in good ordinary soil in warm borders or in partial shade in woodland or wild gardens. Not suited for heavy clay soils. Plant the tubers in early autumn. Increased by offsets removed after the foliage has faded. Botanists now class A. crinitum under another generic name, viz., Helicodiceros crinitus, and A. Dracunculus as Dracunculus vulgaris.

Babiana (Baboon Root).—South African bulbous-rooted plants, belonging to the Iris family (Iridaceæ). The bulbs or corms have a fibrous coat and the leaves are plaited, hairy and stiff. The flowers, which are funnel-shaped and borne on dense spikes, are fragrant, showy and produced in May and June. Unfortunately they are not suitable for outdoor culture in the south. The corms should be planted 4in. deep and 3in. apart in sandy loam, on a sunny sheltered rockery. Plant in September or October, or in February. If the early planted ones show through the soil in winter, protect them with a covering of dry bracken fern. Lift the corms after the foliage dies and replant later. Increased by offsets. The chief kinds are B. disticha, pale blue, hyacinth-scented: B. plicata, violetblue, clove-scented; B. ringens, scarlet; B. stricta, white and lilac blue; and B. sambucina, purple, elder-scented.

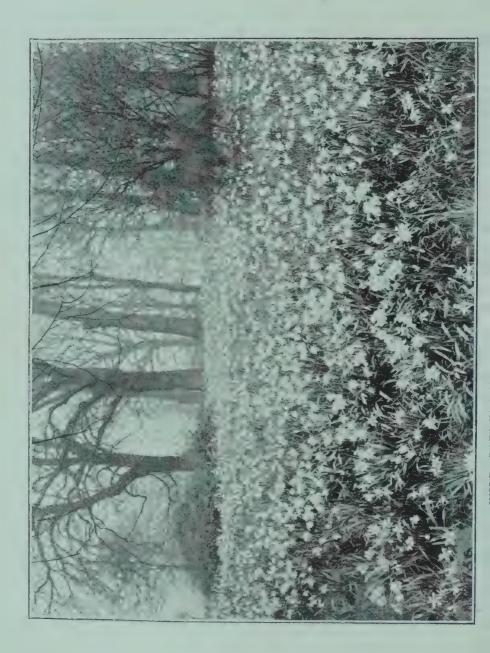
Bessera (Coral Drops).—B. elegans is a half-hardy bulbous-rooted plant, belonging to the Lily family (Liliaceæ), and a native of Mexico. It grows about a foot high, and bears bright scarlet, bell-shaped flowers in umbels in August. Being somewhat tender it can only be grown outdoors in the south and west parts of the kingdom, and then only in a warm border at the foot of a south wall, or in a warm sheltered rockery. The bulbs should be planted in March in a compost of equal parts peat, loam, leaf-mould and sand. In winter protect by a covering of bracken. Increased by offsets.

Bloomeria.—B. aurea comes from California, and is a half-hardy bulbous plant belonging to the Lily order (Liliaceæ). It is a very pretty plant, bearing golden-yellow flowers striped with brown in umbels in June, and growing about a foot high. Suitable for outdoor culture in warm districts only. Plant the bulbs 3in. deep and 3in. apart in sandy soil in a warm border or sunny rockery in September. Increased by offsets.

Bravoa (Scarlet Twinflower).—A genus of half-hardy bulbous plants, belonging to the Amaryllis family (Amaryllidaceæ). The only species grown is B. geminiflora, a native



WILD GARDENING—CROCUSES MASSED IN GRASS. See remarks on pp. 27 and 255.



of Mexico. This grows 12 to 18in. high, and bears bright scarlet, tubular, drooping blossoms in pairs on slender erect stems between May and August. The leaves are narrow and sword-like. This interesting plant requires to be grown in a sunny border or rockery in sandy loam well enriched with eaf-mould. Plant the corms 6in. apart and 4in. deep in September or October. During the winter cover the surface with dry litter to afford protection from frost. Increased by seeds sown in sandy soil in a cold frame in spring; also by offsets in October.

Brevoortia (Crimson Satinflower).—B. coccinea or Ida-Mai is a Californian bulbous plant, and a member of the Lily family (Liliaceæ). The flowers, which are tubular and of a deep crimson with green tips, are borne on slender stems a to 3ft. high in June and July. Few plants produce a prettier effect when grown in a mass in a sunny border or rockery. The flowers, moreover, are most useful for cutting. The corms should be planted 6in. apart and 3in. deep in sandy loam early in October. It is not advisable to disturb them too frequently—say, once in four or five years. The wiry flower stems need a little support. Propagate by offsets in October.

Brodiæa (Californian Hyacinth).—Very beautiful hardy bulbous plants, belonging to the Lily family (Liliaceæ), and natives of California and N. America. There are a large number of species, the best being B. congesta, purplish-blue; B. grandiflora, purplish-blue; B. Howelli, white and blue; B. Howelli lilacina, lilac; B. laxa, violet; B. peduncularis, porcelain white; and B. Leitchlinii, white, a native of Chili. These vary from 6 to 18in. in height and flower in summer. The Spring Star Flower (Triteleia uniflora) is now known as B. uniflora, but as it is better known under the former name we have dealt with it under Tritelia, which see. They require to be grown in sandy loam in a sunny border or on a rockery, to be planted 3in. deep and 4 to 6in. apart in October or November, and not to be disturbed often than once in three or four years. In winter protect with dry litter. Scarcely hardy enough to grow in the open in the north. Increased by offsets in October.

Bulbocodium (Spring Meadow Saffron).—This is a crock s-like bulbous plant, a native of the European Alps, and a member of the Lily order (Liliaceæ). It grows 4 to 6in. high, and bears violet or rosy-purple flowers from January onwards. The corms are black. The only species worthy of note here is B. vernum, described above. This should be grown in sandy loam on a sunny rockery or on the margin

of a well-drained border. The best time to plant the corms is in July or August, but they may also be planted a month later. Plant 4in. apart and 4in. deep. Lift, divide and replant every third or fourth year. Increased by offsets in August.

Calochortus (Mariposa Lily; Star Tulip).—A genus of N. American bulbous plants, belonging to the Lily order (Liliaceæ). Few bulbous plants are more beautiful or interesting to grow. It is true we cannot recommend the rough and ready gardener to grow them, but these who delight in growing choice plants and are willing to pay special attention to their needs, will get an ample reward for their pains and trouble. The species we recommend the reader to grow are: C. albus, white, 12 to 18in.; C. apiculatus, strawvellow, 9 to 18in.; C. Benthami, yellow, 4 to 8in.; C. cæruleus, lilac, white and blue, 3 to 6in.; C. clavatus, golden-yellow; C. collines, lilac; C. elegans, greenish-white and purple, 8in.; C. flavus, yellow; C. Greeni, lilac, 1ft.; C. Gunnisoni, lilac and vellowish-green; C. Howelli, creamy-white, 12 to 18in.; C. Kennedyi, orange-red, 18in.; C. lilacinus, pink, purple and lilac, 6 to 8in.; C. longibarbatus, purple-lilac, 1ft.; C. luteus, yellow and orange, 1 to 2ft.; C. Lyoni, white and rose; C. macrocarpus, purple-lilac, 18in. to 2ft.; C. madrensis, orangevellow, 18in.; C. marveanus, white and purple, 6 to 10in.; C. nitidus, white; C. Nuttalli, creamy-white, red and purple; C. Plummeræ, lilac, 2ft.; C. pulchellus, orange-yellow, fragrant, 9 to 12in.; C. Purdyi, white and purple, 9 to 18in.; C. splen dens, pale lilac; C. venustus, yellow and crimson, 18in. Of the latter there are several lovely varieties, to wit, lilacinus, deep lilac; purpurascens, lilac-purple; citrinus, lemon-yellow; sanguineus, red; and Vesta, white and rose. To grow these exquisite bulbs really well they should be planted in a specially prepared ked. The latter should be raised quite 6in. above the surrounding soil and slope southwards. The soil recommended by Messrs. Wallace, of Colchester, who grow Calochorti extremely well, consists of road grit, good oak leafmould and sand. In this plant the bulbs in September or October 3in. deep and 3in. apart. In November cover the beds with dry litter and let this remain on till March. The bulbs flower during the summer, and when the flowering season is over and the foliage withered, they should be lifted, dried and stored away till planting time. To obviate the necessity of the annual lifting and planting, place spare frame lights, supported at the corners by bricks, over the beds. This will ripen the bulbs and permit them to remain undisturbed for three years or so. Where only a few bulbs are to be grown small beds may be prepared on a sunny rockery and the bulbs protected after flowering by covering with hand lights. In dry weather see the bulbs have plenty of water. Increase is effected by offsets at planting time; also by seeds sown in sandy soil in cold frames in spring. Seedlings, however, do not flower for several years.

Camassia (Quamash).—The Camassias are bulbousrooted perennials, belonging to the Lily order (Liliaceæ), and natives of N. America. They have narrow graceful foliage and bear their flowers in elegant racemes. All the species below mentioned are quite hardy, and their flowers come in most useful for cutting for indoor decoration. The species are as follows: C. esculentea, pale blue, 12 to 30in.; C. Cusicki, pale blue, 3ft.; C. Fraseri, pale blue, 18in.; and C. Leitchlinii, creamy-white, 3ft. There are two or three varieties of C. esculentea, namely, flore albo, white; atrocærulea, dark blue, atroviolaceæ, also dark blue. All flower in summer. The Camassias require a deep, light rich soil and a sunny position. Plant the bulbs 4in. deep and a foot apart in large groups in September or October. weather copious waterings will be beneficial. It is advisable to lift the bulbs every three or four years, remove the offsets and replant these to make flowering bulbs. Increased by offsets in early autumn, also by seeds sown in sandy soil in a cold frame in March.

Chionodoxa (Glory of the Snow).—Hardy bulbous plants belonging to the Lily order (Liliaceæ), and natives of Crete and Asia. Of all spring-flowering bulbs the Chionodoxas are unquestionably the most exquisite and charming. The blue and white flowers borne on graceful racemes cannot be surpassed in grace or beauty. The only species we shall mention here is C. Luciliæ, a native of Asia Minor. This produces flower stems 6 to 8in. high, which bear flowers over half-an-inch in diameter of a delightful blue colour with a white centre. There are many charming varieties, too, which are equally beautiful. Sardensis, for example, bears gentianblue flowers, rather smaller than those of Luciliæ. Then there is grandiflora, with flowers double the size of those of C. Luciliæ; alba, white; and Alleni, with white, blue and pink flowers. All flower in March and April. In their native homes they grow on the mountain slopes and push their flower spikes through the snow. The effect of the blue flowers with a carpeting of snow is an exceedingly pretty one, but nearly as delightful an effect may be obtained by growing the bulbs in the turf of the lawn or on grassy slopes in the garden. To grow Chionodoxas thus scatter the bulbs freely on the turf; then by means of a dibber make holes an inch or so wide and

gin. deep where the bulbs lay. In each hole drop the bulb and fill up with good mould. The next spring the bulbs will have a perfectly natural appearance, there being nothing stiff or formal about their disposition in the turf. Chionodoxas may also be grown in groups or patches on the margins of borders or in beds on sunny rockeries. Plant in. apart and 3in. deep in September. Saxifrages, Aubrietias and Herniarias may be planted over the bulbs, then the space occupied by the latter will not look bare in summer. Besides, a carpeting of dwarf plants adds to the beauty of the flowers of the Chionodoxas. Bulbs grown in borders or on rockeries should not be disturbed. Increased by seeds sown as soon as ripe in sandy soil in a cold frame; also by offsets in August. Seedlings do not flower till five or more years old.

Colchicum (Meadow Saffron).—The Colchicums belong to the Lily order (Liliaceæ), and are hardy bulbous-rooted plants. They usually flower in autumn, pushing forth their flowers before new leaves form. On this account they are often called Autumn Crocuses. The species are C. autumnale, purple-flowered, and its varieties album, white; album fl. pl., double white; maximum, purple; purpureum, rose; and striatum, rose and white. C. byzantinum is a native of the Levant; flowers, rose. C. speciosum is a native of the Caucasus, with flowers of a reddish or crimson-purple. In trade lists other species are listed as, for instance, Decasnei, flesh; giganteum, rose, white throat; Parkinsoni, rose, purple and white, chequered; Sibthorpii, rose, spotted purple; variegatum, rosy-purple. The foregoing all flower between August and November. There are two or three species that blossom in spring, namely, crocifforum, purple striped; hydrophilum, reddish-pink, fragrant; libanoticum, rose and white. These bulbs do best grown on grassy banks or in masses in turf in the wild garden. We cannot recommend them to be grown in borders or on rockeries unless the space they occupy is carpeted with Saxifrages, Arenarias, etc., to form a setting to the leafless flowers and to prevent them being spoiled by splashed soil. In all cases plant early in August, placing the bulbs 3in, deep and 4 to 6in, asunder. Once planted leave the bulbs alone, then they will increase, and a fine display of colour be obtained. Increased by seeds sown in sandy soil in a cold frame when ripe; but more generally by offsets early in August.

Crinum.—Hardy bulbous plants belonging to the Daffodil order (Amaryllidaceæ), and natives of S. Africa. Two species only are hardy. C. longifolium (Syn. C. capense) has large bulbs and strap-like leaves. The funnel-shaped flowers are

borne from 6 to 12 on a stout stem a foot long. The colour of the flowers is white flushed with pink. There is a white-flowered variety named album, and a striped white and pink one named striatum. C. Moorei has bell-shaped flowers 6in. in diameter and strap-like leaves. Both flower in summer or autumn. C. longifolium does best in a deep rich soil near the margin of a pond, or in a sunny moist border. C. Moorei likes a well-drained loamy soil and a sunny position. They must have plenty of moisture in summer, and be protected in winter with a covering of fern or leaves. An annual top-dressing of rotten manure in early spring will also be beneficial. Plant the bulbs 6in. deep in March. Increased by seeds sown in sandy soil in heat in spring, also by offsets in March.

Crocosma.—S. aurea (Syn. Tritonia aurea) is a South African bulbous plant, belonging to the Iris family (Iridaceæ). It has narrow sword-like leaves and bears brilliant reddishorange flowers in graceful racemes during August and September. A most useful plant to supply charming flowers for cutting. C. imperialis is another handsome kind bearing large orange-red flowers on racemes 4ft. high in September. These bulbs are somewhat tender. In the south and west they may be grown in well-drained sunny borders of deep sandy soil enriched with rotten manure. In other parts it is advisable to start the bulbs in pots in a cool house in spring and plant out in May. Plant outdoors bulbs 3in. deep and 3in. apart in October. Otherwise treat as advised for Tritonias. Increased by offsets.

Crocus.—This genus of bulbous plants is an exceedingly popular one, the corms being grown freely in gardens of all sizes. They belong to the Flag or Iris order (Iridaceæ). There are two sections of this well-known genus, namely, the Spring and the Autumn-flowering. The former are the best known kinds, but the latter are equally as beautiful and interesting. In the Spring-flowering section C. vernus, an alpine species. is one of the most noteworthy because it is the parent of the numerous varieties, corms of which are largely imported annually from Holland and sold at a cheap rate for the embellishment of our gardens. We need not mention the varietal names of the latter since they can be found in any bulb list. The species which are deserving of special mention here as pretty spring-flowering crocuses to grow in patches in the border or on the rockery are: C. biflorus (Scotch Crocus), lavender, white and purple, Fcb.; C. aureus, golden-vellow, Feb.; C. Imperati, lilac-purple, fragrant, Jan. and Feb.; C. suavolens, lilac, orange, buff and purple, March; C. versicolor, purple and white, March; C. Sieberi, lilac and gold,

Feb., a charming species; and C. chrysanthus, orange-yellow, Jan. The Autumn-flowering species worth growing are: C. nudiflorus, blue, Sept; C. pulchellus, lilac, Sept.; C. speciosus, blue, Sept.; C. iridiflorus, blue, Oct.; and C. Clusii, lilac, Oct. There are three ways of growing crocuses in our gardens. One is to use them as edgings to beds or borders, a formal method; another to group them in patches or masses in borders and on the rockery; and a third plan, and one of the most natural withal, is to grow them in the turf of the lawn, the wild garden, or in grassy slopes. In small gardens, where space is limited, it is difficult perhaps to avoid growing crocuses in lines as edgings. But in large gardens there is no excuse for such formality, as ample room would exist for massing them in borders or in the turf of the lawn. When grown in borders it is always advisable to carpet the patches with some low growing plant like saxifrages, then the blooms will show to better advantage, and the patches not have a bare appearance in summer and winter. Both the spring and the autumn-flowering species will do best in the nooks of the rockery, each kind being grown by itself. As regards growing them in grass, the best way is to scatter the corms about the surface in patches here and them, just as you see primroses growing on a bank, and then to plant them where they lie about 2in, deep. For planting bulbs of all kinds properly and expeditiously Barr's bulb planter should be used. This cuts out a circular bit of turf just large enough to take the corm, and the piece removed is available for refilling the hole. ordinary "dibber" may be used, but it is necessary in this case to use soil to fill up the holes. Crocuses may be planted in a similar way on grassy banks, round the margins of coniferous trees and under the shade of tall trees. Once planted they will multiply year after year, and provide a glorious sheet of colour in early spring. Where crocuses are grown the grass should be cut till the foliage withers. In the case of crocuses grown in beds the corms may be lifted directly after flowering and replanted close together in shallow drills in a spare corner to finish their growth, when lift, dry and store away till replanting time. The best time to plant the autumn-flowering species is in August, and the spring-flowering ones in October and November. The corms should be planted 2 to 3in. deep and the same distance apart. It will not be necessary to lift the autumn-flowering or the spring-blooming kinds, with the exception of those grown in beds. Crocuses may be reared from seeds sown when ripe in sandy soil in a cold frame, but the seedlings will not flower for several years. They are readily increased by offsets in autumn. Natives of Europe and Asia Minor.

Cyclamen (Sowbread).—Very pretty and interesting dwarf alpine plants with tuberous roots and membranes, of the Primrose order (Primulaceæ). Some of the species flower in autumn and others in winter and spring. They are suitable for rockery culture, also for naturalising in masses in grass under the shade of trees. The following species, hybrids and varieties are exceedingly pretty and many of them fragrant also: C. africanum is a native of Algiers, grows 6 to 8in. high, has large heart-shaped leaves, and bears rose-coloured fragrant flowers in October and November. It is the largest of the hardy species, and requires a little protection in winter, such as a covering of dry leaves. C. cilicicum is a native of the mountains of Asia Minor, has prettily marbled small leaves, grows 4in. high, and bears white purple-centred, fragrant flowers in autumn. C. Coum is also a native of Asia Minor, Greece and Turkey, grows only 3in. high, has roundish green leaves which are purple on the undersides, and bears purple flowers from December to March. There are several varieties of it, viz., album, white; lilacinum, lilac; roseum, rose; and rubrum, crimson. C. europæum is a native of the mountains of C. and S. Europe, grows 4in. high, has leaves marbled above with white, and purple beneath; flowers, crimson and fragrant, June to October. C. ibericum, a native of the Caucasican mountains, has round leaves margined with white, and red flowers borne in February and March. C. Atkinsoni is a hybrid between C. Coum and C. ibericum. It has leaves marbled with white and bears flowers of shades of white, rose, lilac and purple, in spring. Other hybrids or varieties of C. ibericum are, lilacinum, rosy-lilac, crimson centre; roseum, rose; rubrum, deep crimson; and Whittallii, rose and white. C. latifolium is a new species from Asia Minor, with marbled silvery foliage and purple flowers borne in autumn. C. libanoticum comes from Mount Lebanon, has its leaves prettily marked with silvery zones, and bears sweet-scented, pale rose, white, crimson flowers from January to March. C. neapolicanum (Syn. C. hederæfolium), a native of S. Europe, has rosypink fragrant flowers borne in early autumn, and handsome silver marbled foliage. Its variety album has white flowers. Last of all is C. repandum (Syn. C. hederæfolium), a crimson-Howered, fragrant species from S. Europe. This flowers from March to May. There is a pure white variety named album. The foregoing hardy kinds may be grown on rockeries, grassy banks, in turf under the shade of trees, or in woodland borders. They do best in peat, leaf-mould and sandy loam, with plenty of old mortar added to it if possible. When grown on a rockery a north or north-west aspect is best. The ideal conditions for the culture of these pretty plants are a rich soil, plenty of

moisture in spring and summer, but not too damp in winter, and partial shade. Plant the tubers 2 to 3in. apart and 1½ to 2in. deep in August or September. When the leaves die, remove the old soil as far as the tubers, and top-dress with decayed manure and leaf-mould. In winter protect with dry leaves. Increased by seeds sown in sandy peat and leaf-mould in a cold frame in autumn. Grow the seedlings on in pots in a frame for a year, then plant out.

Dierama (Wandflower).—A genus of South African bulbous plants, belonging to the Iris order (Iridaceæ). D. pulcherrimum (Syn. Sparaxis pulcherrima) grows 3 to 6ft. high, has sword-shaped leaves and long graceful flower stems furnished with drooping, tubular, blood-red flowers in September. There are white, red and striped varieties of it. A hardy and beautiful species. D. pendula has lilac flowers borne on scapes 4ft. high, and is also a very pretty species. Both require to be grown under similar conditions to Ixias, which see.

Eranthis (Winter Aconite).—Dwarf tuberous-rooted perennials, which flower from January to March. yellow-flowered and belong to the Buttercup order (Ranunculaceæ). The best known species is E. hyemalis. This is a native of Europe and grows 3 to 4in. high. It is extensively grown for naturalising in woodland borders, grassy slopes, and in turf under the shade of trees. It is one of the first hardy flowers to bloom in the open, and a mass of its bright yellow blossoms is very effective early in the year. The other species are, E. cilicica and E. sibirica. The small tubers should be scattered about and then planted where they lie a couple of inches deep in September or October. They are hardly suitable for the mixed border on account of the tubers being so easily disturbed by planting operations. Still, a few patches here and there in a border or rockery will be very pleasing if they can be so grown. The foliage soon dies. Increased by division when the foliage dies.

rooted flowering perennials, belonging to the Lily order (Liliaceæ). Many of them are of stately and noble growth, but they are unfortunately not hardy enough to succeed really well outdoors except in a few favoured districts. Those who live in mild, sheltered districts may grow these plants in positions sheltered from north and east winds. To ensure success it is advisable to prepare a special well-drained bed, fully 3ft. deep and composed of good sandy loam, decayed cow manure and leaf-mould. In this plant the roots 3 to 4ft. apart in autumn, keeping the crown just out of the soil. In winter

mulch around each plant with decayed tree leaves, and when growth begins actively in spring top-dress with rotten manure and leaf-mould. In the event of frosty weather occurring after growth has begun protect the young shoots with dry bracken or litter. The plants often fail to flower till three or more years after planting. The best known species are: E. robustus, flowers pink, borne on cylindrical spikes 3 to 4ft, long in May and June. The total length of stem and spike averages 8 to 10ft. The leaves, too, are very large and handsome. E. elwesianus is a vigorous variety of the latter with enormous spikes of pink flowers. E. Bungei has citron-vellow flowers borne in June and July; height 2 to 3ft. E. himalaicus is a white flowered species with stems 6 to 8ft. high, one-third of which is occupied by the flower spike. A very hardy species. E. Olgæ has a flower spike 8ft. high, 5ft. of which is occupied by the flower spike. The colour of the flowers is white, tinted red. E. spectabilis grows 2 to 4ft. high, and bears small light yellow flowers in summer. Eremuri may be raised from seed sown in sandy loam and leaf-mould in gentle heat in spring, the seedlings being carefully transplanted into small pots, and finally placed in cold frames for a couple of years before finally planting out. Natives of Turkestan, Persia and the Himalavas.

Erythronium (Dog's Tooth Violet).—An interesting genus of bulbous plants, belonging to the Lily family (Liliaceæ). They all flower in early spring and are specially adapted for naturalising by the side of woodland walks, in turf under the shade of trees, or growing in groups on partially shady rockeries or margins of borders. They have prettily marbled leaves and graceful lily-like flowers. Few hardy plants are more interesting than the Dog's Tooth Violet. They are not particular as to soil, but very heavy clays are apt to cause the corms to perish in winter. The corms should be planted about 2in. deep and 3in. apart in August. A topdressing of well-rotted manure and leaf-mould in autumn will be most beneficial. Once planted disturb the roots as little as possible. The most showy and desirable kinds to grow are E. Dens-canis, a European species, with rose or violetpurple flowers, and its varieties, album (white) and rosea (rose). This is the kind most commonly grown. Other species, natives of N. America, and exceedingly pretty, are: E. grandiflorum robustum, golden-yellow; E. giganteum, creamy-white and orange; E. Hartwegi, yellow; E. Hendersoni, light purple, yellow ring; E. Howelli, pale vellow and orange: E. Johnsoni, pink and yellow; and E. montanum, white with yellow centre.

rooted perennials, belonging to the Lily family (Liliaceæ), and natives of S. Africa. There are several species, but the only one likely to do well in well-drained sandy soil in a warm border is E punctata. This has green, recurving leaves spotted with purple beneath, and creamy-white, waxy, fragrant flowers borne on cylindrical trusses 1 to 2ft. high in summer. Plant the bulbs 3in. deep and a foot or so apart in September. In winter protect with a covering of leaves. Increased by offsets in September.

Fritillaria (Fritillary).—A genus of hardy bulbous plants, belonging to the Lily order (Liliaceæ), and of which the Crown Imperial (F. Imperialis) is a well-known example. Following are some of the best species to grow: F. aurea, golden-yellow; height 6in.; native of Asia Minor. F. armena, rich yellow; 6in.; Asia Minor. Rubra is a plum-coloured variety of the latter. F. citrina has bright green bells shaded with citron-yellow; Asia Minor. F. coccinea bears red flowers with recurving petals. F. Elwesii has bright green bell-shaped flowers, reflexed at mouth and blotched with reddish-brown. F. Imperialis (Crown Imperial) grows 2 to 3ft. high, and bears yellow flowers in April. Of this species there are several varieties, to wit, Aurora, old gold with dark centre; lutea, yellow; rubra, red; Giant Red, orange-red, large; Giant Yellow, yellow, large; aureo variegata, orange-red with leaves edged with vellow; and sulphurine, buff. F. kamschatica or camtschatcensis (Black Lily) has deep blackish-red, bell-shaped flowers, spotted with purple; height 6in.; native of Siberia, etc. F. lanceolata grows ift. high, is a native of N. America, and has curiously mottled brown, green and yellow flowers. F. libanotica has lilac and yellow flowers and glaucous green foliage; height 18in. F. Moggridgei (Golden Snake's Head) is a very pretty species with golden-yellow pendulous flowers; height 6in.; S. Europe. F. pallidiflora is a Siberian species, and yellow flowers chequered with rose or purple; height gin. F. persica (Persian Lily) is a Persian species with violet-blue scented flowers; height 2ft. F. Meleagris (Snake's Head Fritillary) is a native species, growing 12 to 18in. high, and bearing purple or purplish-maroon tesellated flowers. There is a white variety named alba, and several others with variously coloured markings. F. pudica has small golden-yellow fragrant flowers; height 6in.; native of Rocky Mountains. F. recurva has orange-scarlet drooping flowers, and is very pretty; height ift.; native California. Many others will be found in trade lists and books, but those mentioned are the best. Now a word as to culture. The Crown Imperial will thrive in any good ordinary soil in sun or in partial shade. Some

of the finest specimens are to be seen in cottage gardens, where the roots are rarely disturbed, and therefore care should be taken not to interfere with the bulbs when once planted. Plant the bulbs in early autumn 6in. deep and a foot apart. look best when grown in bold groups. The Snake's Head Fritillary (F. Meleagris) thrives best on grassy banks or in turf, especially where the soil is not too dry. Scatter the bulbs about on the turf, and plant them 4in. deep where they lie on the surface. In this way they will have a natural appearance when in flower. May be grown also in moist borders or rockeries in full sun. Plant in groups to look effective. F. kamschatica must be grown in sandy peat in a warm nook of the rockery. F. recurva will also do best on a rockery in sandy loam. Cover with a handlight in winter to keep off heavy rain. The other species will succeed in sandy loam on a sunny rockery, or on the margin of a sunny border The bulbs should be planted in September or October 4 to 6in. deep and 6 to 8in. apart, according to their size. It is not wise to disturb the bulbs oftener than once in four years. When removal is necessary wait till the leaves die. Increased by seeds sown in sandy soil in autumn or spring in a cold frame. Seedlings do not flower till four or five years old. Also by offsets in early autumn. All flower in April, May and June.

Galanthus (Snowdrop).—Everybody knows and admires the modest Snowdrop which greets us with its pearly blossoms early in the year, and everyone who has a garden loves to grow a few bulbs. The Snowdrop belongs to the same order as the Narcissus, namely, the Amaryllidaceæ. mon Snowdrop (G. nivalis) grows wild in Britain as well as in Europe, and is too well known to need any introduction. There are single and double-flowered forms of it. G. Imperati is an Italian variety of it with larger leaves and flowers. Other species are G. Alleni, a native of Asia Minor, with large leaves and flowers; G. byzantinus, a robust species with large flowers; G. Elwesii, large globular green and white flowers, a vigorous kind; G. Fosteri, a tall species with broad foliage and large flowers; G. Ikariæ, leaves glossy green, recurving, and flowers snowy-white; G. latifolius, a Caucasian species with broad foliage and small flowers; G. plicatus (Crimson Snowdrop), leaves broad and channelled and reflexed at tips. flowers later than other species; G. Whitallii, a new species, a robust grower with large leaves and globular flowers. All the species mentioned may be grown in masses on grassy slopes in turf on the fringe on evergreen trees, under the branches of deciduous trees, in the open lawn, or in woodlands. The best effect is obtained by mixing Winter Aconites, Chionodoxas, Scillas and Snowdrops together in masses.

Scatter the bulbs freely about and plant them 2in. deep. Use a Barr bulb planter for putting in the bulbs, then the planting can be done more expeditiously and properly. The choice kinds may be grown in sunny or partially shady borders or on rockeries with a carpeting of Arenarias or other low growing plants over them. A gritty soil with plenty of leafmould will suit them best. Bulbs in borders should not be disturbed often. Plant in September or October 2in. deep and 3in. apart. Increased by offsets in autumn.

Galtonia (Cape Hyacinth).—G. candicans, formerly known as Hyacanthus candicans, belongs to the Lily order (Liliaceæ), is a native of South Africa, and one of the handsomest of late summer-blooming bulbs. It has long straplike leaves and bears large, fragrant, pure white, waxy, bell-like, drooping flowers on stems 3 to 5ft. long. When well grown there are as many as 40 to 50 flowers on a spike. When grown in groups among hardy shrubs, or in beds in association with Gladioli, as Brenchleyensis, the stately spikes of white blossoms produce a splendid effect. Grown in light or well-drained garden soil the bulbs will continue for many years to produce their handsome spikes. The bulbs should be planted in autumn 6in. deep and 8 to 12in. apart. In autumn top-dress with decayed manure. Increased by offsets removed in early autumn.

Geissorhiza (Tile-root).—A very pretty and interesting hardy bulbous plant is G. rochensis. It belongs to the Iris order (Iridaceæ), and comes from the Cape. The flowers are of a lovely Tyrian blue tint, blotched with crimson, and are borne in June. It grows 9in. high. Plant the bulbs in August in sandy peat and loam in a sheltered nook of a sunny rockery. Protect in winter with a covering of bracken fern. Increased by offsets.

Gelasine.—There is only one species, and that is G. azurea, a native of South America, and a member of the Iris order (Iridaceæ). This species bears blue flowers in umbels in May and is very pretty. It is not quite hardy, but so far has done well in sandy loam in the warm sheltered nook of a sunny rockery. The bulbs are best planted in August 4in. deep and 4in. apart. In winter cover the bed with a handlight to keep the bulbs dry. Height 1ft. Increased by offsets.

Gladiolus (Sword Lily).—Gladioli are bulbous-rooted plants, belonging to the Iris order (Iridaceæ), and rank among the most beautiful and showy of hardy garden flowers. The Gladioli family is a large one and includes many interesting species as well as several races of beautiful hybrids, the

latter being the best known. Among the species worthy of note are G. blandus, white, red and yellow, June, 2ft.; G. byzantinus, red to purple, June, 2ft.; G. cardinalis, scarlet, July, 3ft.; G. communis, rose, white and purple, July, 2ft.; G. Saundersi, crimson, pink and white, autumn, 2ft.; and G. segetum, pinkish-rose, July, 2ft. There are many others, the names of which will be found in trade lists. The hybrid forms include Brenchleyensis, flowers brilliant scarlet, appearing in August and onwards; Childsi, hybrids between gandavensis and Saundersi, flowers large and variously coloured, growth vigorous and spikes long and branching; Colvilleii, a hybrid between G. cardinalis and G. tristis, flowers crimsonpurple and white, or white only as in the variety, The Bride, flowering in early summer; gandavensis, a hybrid between various species, flowers large, handsome and colours very beautifully varied, blooming in autumn; Lemoinei (Hybrid Butterfly Gladiolus) a hybrid between G. purpurea-auratus and G. gandavensis, with flowers of most delicate and beautiful shades, growth vigorous, blooming in early autumn; nanceanus, a hybrid between G. Saundersi and G. gandavensis, flowers brilliant and varied in colour, free-blooming, flowering in autumn; nanus, hybrids between G nanus and G ramosus, flowers most beautiful and suitable for cutting, blooming early in July; ramosus, a race of dwarf free-blooming and pretty flowering hybrids, blossoming in July and onwards. It would take up too much space to enumerate the leading varieties in section. For these the reader is referred to a good bulb list, where he will find them classified in the various The species and early-flowering kinds should be planted in November if possible, or in February. The corms should be planted 4in. deep and 6in. apart in deep, rich soil in sunny borders. Care should be taken not to allow manure to come in contact with the corms. As a protection from frost, cover the bed with a layer of rotten manure after planting. In the case of soils that are inclined to be damp in winter it is safer to lift the corms annually when the foliage withers, and dry and store them away to February, then replant. This precaution is not necessary in the case of light, warm soils. The late-flowering sections, such as Brenchleyensis, gandavensis, Childsi, Lemoinei, etc., are best planted in March or April. Before planting dig the soil deeply and work in plenty of thoroughly well-rotted manure and leaf-mould, and then plant the corms 4in. deep and 91n. apart. Surround each corm with a little silver sand. When the new growth is well advanced support each stem with a stake, top-dress with rotten manure, give occasional applications of liquid manure and ample watering in dry weather. These Gladioli show to best advantage in beds or in masses in the border, and if carpeted with Violas the effect will be all the more pleasing. In the latter event the corms ought to be a foot apart. Early in November the corms should be lifted and spread out in an airy place to dry. When the foliage has shrivelled cleanse the corms, remove the offsets, and store in boxes in a cool place till planting time. Gladioli may be increased by seeds sown thinly half an inch deep in finely-prepared soil outdoors in April. In September lift the young corms, store them in a cool place and plant out in March. Also increased by offsets planted 2in. deep outdoors in March. The seedlings and corms require to be grown for three years before they make strong flowering corms. During their earlier stages do not allow them to bear flowers.

Habranthus.—This is a genus of bulbous plants, belonging to the Amaryllis order (Amaryllidaceæ). The only species grown is H. pratensis, which bears brilliant scarlet Amaryllis-like flowers on stems a foot high in early summer. A native of Chili. Modern botanists include this species in the genus Hippeastrum. There is a variety named fulgens with more brilliant flowers. Being somewhat tender in growth the bulbs require to be grown in a sandy loam and leaf-mould in a well-drained border at the base of a south wall. Plant the bulbs 4 to 6in. deep in early autumn. In winter protect by a covering of dry leaves. Increased by offsets removed and replanted in early autumn.

Hyacinthus (Hyacinth).—Few plants are capable of making a better display of rich colour in the garden in spring than the Hyacinth. Therefore it has long been the fashion to plant the bulbs in beds, or in groups in the borders in autumn, and as good bulbs for that purpose are obtainable at a cheap rate from Holland there is no excuse for lovers of spring flowers to neglect to cultivate them for that purpose. They look well grown by themselves or in conjunction with Tulips, Narcissi, Crocuses and Scillas. Leading seedsmen arrange their bulbs into two sections, early and late, and again varieties in separate colours or in mixtures to suit the requirements of their customers. Thus if blooms are wanted early or late or in separate colours the customer can have them. Here we shall not attempt to name any special varieties. These, if required, can be obtained from trade lists, or the selection may well be left to the seedsman to make. We shall merely content ourselves with giving a few cultural hints. To grow Hyacinths well the soil should be deeply dug and well manured. Dig the soil two spits deep and put a zin. layer of rotten manure between the two spits. If the soil is inclined to be heavy, mix plenty



THE GIANT LILY (LILIUM GIGANTEUM).

See p. 268 for description and culture.



ENGLISH IRIS (IRIS XIPHIOIDES HARLEQUIN).

See p. 265 for description and culture.

of decayed vegetable manure and grit with the upper spit, but no manure. Manure, be it understood, must never come in contact with the bulbs. At the end of October or early part of November, plant your bulbs 6 to 8in. apart and 4in. below the surface. In the case of choice bulbs a little silver sand should surround each bulb. After planting the beds may be covered with a mulch of decayed manure or cocoanut-fibre refuse. Nothing remains to be done till spring, when the heaviest spikes may need to be supported by a neat stake. When the bulbs have ceased flowering and their space is required for summer plants, lift the bulbs carefully and then replant them close together in rows elsewhere to complete their growth. About the middle of July the foliage will have died and the bulbs can be lifted, dried in an airy shed, and stored in shallow boxes till planting time. Such bulbs must not be expected to flower so finely as newly imported ones, so new bulbs should be procured annually for choice positions and the others used for borders or beds of less importance. Bulbs that have been grown in pots may be ripened off, dried, stored and replanted in the autumn. On well-drained soils Hyacinths will flourish for many years if left in the ground. In purchasing bulbs the best results will be obtained by ordering what you require from a first-class dealer and paying a good price for them. Cheap collections rarely give In addition to the bedding Hyacinth there are two species worthy of culture, and these are H. amethystinus (Spanish Hyacinth), bearing blue flowers in May and June, and its white variety alba; also H. azureus, a species which bears azure-blue flowers in conical heads early in February. The former should be grown in large clumps in the flower borders, or massed in the turf or woodland border, and the latter in beds on the rockery where its early blooms can be protected from severe frost, rain and winds by a handlight. Plant the bulbs of H. amethystina 3 to 4in. deep and the same distance apart, and those of H. azureus 3in. and zin. apart. The bed in the latter case may be carpeted with Hutchinsia alpina or Herniara glabra. In both cases leave the bulbs undisturbed. Hyacinths are propagated by seed and offsets, but the results of rearing bulbs thus is not satisfactory in this country. Far better bulbs can be purchased from Holland. The bedding Hyacinths have been derived from H. orientalis, and belong to the Lily order (Liliaceæ).

Iris.—Besides the perennial species described on p. 155 in this work, there are also several very beautiful and interesting bulbous-rooted kinds. For example, there is I. alata, a native of S. Europe, growing about a foot high, and bearing

lilac-purple and vellow flowers between October and November. It grows chiefly during the winter, and is at rest in summer. I. bakeriana, a native of Armenia, is another interesting species, which grows about a foot high, and bears blue, white and violet flowers in January and February. Yet another pretty species is the Orchid Iris (I. orchioides), a native of Turkestan. This species grows 18in. to 2ft. high, and bears vellow and violet spotted flowers in March and April. There are two pretty forms of it, namely, cærulea, blue and yellow, and oculata, yellow blotched with blue. I. persica, a Persian species, bears dainty yellowish-green and violet spotted flowers in March. The flowers are violet scented. Purpurea is a reddish-purple and orange-tinted, and Isaacsoni a creamywhite, violet and yellow variety of I. persica. Probably the most lovely of all the bulbous Irises is the Netted Iris (I. reticulata) and its varieties. This grows only a few inches high, and bears delightfully fragrant violet and orangecoloured flowers in January and February. Of this there are several very fine forms, as: Histrio, blue, yellow and purple, Dec. to March; Histrioides, blue, golden-yellow, cream and violet, fragrant, Jan. to March; Krelagei, purple and yellow, fragrant, Jan.; Purpurea, reddish-purple and yellow, Jan.; and Sophenensis, purple, lilac or lavender, and orange, Jan. The foregoing species is a native of the Caucasus. Other little grown but interesting species are: I. tingitana, a native of Tangier, and I. Vartani, from Syria. going kinds require to be grown on a warm, sheltered rockery, in little beds by themselves. See that good drainage is provided and at least a foot of a mixture of sandy loam, leafmould and a little well decayed cow manure added. For I. orchioides and I. persica the loam may be a little heavier. Plant in August or early September, placing the small bulbs three inches deep and the larger ones an inch deeper. When the bulbs are coming into flower protect them with a handlight. In the north and cold districts it would be safer to grow these gems in pots in a cold frame or greenhouse.

The Spanish Iris (I. Xiphion) is a well-known and popular garden flower, which can be obtained in named or unnamed varieties. It is a splendid plant for a dry sunny border, yielding its lovely flowers in early summer. It may readily be distinguished from the English Iris by its narrower foliage and smaller flowers. The English Iris (I. xiphiodes) has stouter leaves and larger flowers, and flowers a few weeks later than I. xiphion. Here also named varieties may be obtained, but a good mixed collection will yield a great variety of charming colours. The English Iris will succeed in good ordinary soil, but requires more moisture than the Spanish

kind. The bulbs of both species should be planted 3in. deep and 6in. apart in September and October. It is not necessary to lift the bulbs after flowering. They may remain where they are for three years, then be lifted and replanted in August or early September. Both kinds should be grown in bold groups, the bare earth being carpeted with violas or some other dwarf plant. Bulbous Irises may be increased by offsets.

Ixia.—A charming genus of bulbous perennials, natives of S. Africa, members of the Iris order (Iridaceæ), but only hardy enough to grow outdoors in warm districts. To succeed with them they must be grown in a well-drained sheltered border near a south wall or in a raised bed. The soil must be a sandy loam, and the bulbs be planted early in November or in February. Plant them 3in. deep and 3in. apart. In severe weather protect the beds with a covering of bracken or dry litter. It is not necessary to lift the bulbs after flowering, which takes place in summer. The flowers are valuable for cutting. The following are pretty kinds: Cræteroides, cerisescarlet; Erubescens major, rose-carmine; Golden Drop, golden yellow; La Favourite, primrose, crimson centre; Magnifica, yellow, chocolate centre; Magnum Bonum, white, blue centre; Niteus, magenta; Præstans, crimson; Queen of Roses, rose; Vulcan, orange-red; White Queen, white, crimson centre. Increased by offsets.

Ixiolirion (Ixia Lily).—Hardy bulbous plants, belonging to the Amaryllis order (Amaryllidaceæ), and natives of Western Asia. Two species are cultivated, namely, I. kolpakowskianum and I. montanum. Both have grassy foliage. The former has blue or bluish-white funnel-shaped flowers borne in May, and the latter lilac blossoms borne in June. Tartaricum or Ledebouri, and macranthum are varieties of I. montanum. The flowers are valuable for cutting and last a long time in a cut state. These bulbs require to be grown in sandy loam in a sunny well-drained border or on a rockery. Damp, heavy soils are unsuitable. Plant the bulbs 4 to 6in. deep in September or October. When planting place a layer of silver sand under and around each bulb. In winter protect either with a handlight or a thick covering of bracken. Some growers prefer to lift the bulbs in August, store them in sand in a frost-proof place, and plant in March. Increased by seeds sown in sandy soil in a cold frame in autumn or spring. The seedlings flower when three to four years old.

Lapeyrousia (Flowering Grass).—L. cruenta, the only species grown, is a member of the Iris family (Iridaceæ), and a native of South Africa. It is a bulbous-rooted perennial,

gro (ing 6 to 12in high, and bearing carmine-crimson blossoms in summer and autumn in clusters on slender stems. The foliage is narrow and grass-like. This plant is also known by the name of Anomatheca cruenta. The bulbs should be planted between August and November, 6in. deep, in sandy loam and leaf-mould. A warm, well-drained border or rockery is the best position for it. Increased by offsets removed from the parent bulbs in early autumn.

Leucojum (Snowflake).—The Snowflakes are pretty bulbous plants, belonging to the Amaryllis order (Amaryllidaceæ). They have daffodil-like leaves and snowdroplike flowers. The two best known species are the Summer Snowflake (L. æstivum), white, tipped with green, May; and L. vernum (Spring Snowflake), white, tipped green, fragrant, March. Other less grown species are L. autumnale, white, flushed pink, Sept.; L. hyemale, white and green, April; and L. pulchellum, white and green, May. They succeed in a sandy loam and may be grown in masses in the turf like Snowdrope; in groups in sunny borders or on rockeries; or in masses in the woodland garden. Plant the bulbs 3 to 4in. deep and the same distance apart in September or October. When well established in a year or so after planting these bulbs will make an effective display with their drooping bellshaped flowers borne on stalks 6 to oin, high. Natives of Europe.

Lilium (Lily).—In the Lily family we have a very beautiful and showy race of hardy bulbous plants. The numerous species are wonderfully rich and diverse in the colours of their flowers and they are unequalled for their effectiveness in

garden decoration during the summer months.

There are at least fifty species adapted for outdoor culture, besides a large number of pretty varieties. L. Alexandræ is a charming hybrid lily from Japan, growing 2ft. high, and bearing large pure-white flowers in July. L. auratum is too well known to require description. There are several handsome varieties of it, namely, platyphyllum (Syn. macranthum), bearing very large, richly-coloured flowers in August, and growing 4ft. high; platyphyllum virginale, with a deep golden band down the centre of each petal, flowering in August, and growing 4ft. high; rubro-vittatum, with a red band on each petal, flowering in August, and growing 4ft. high; Wittei, pure white with a band of yellow on each petal, blooming in August, and growing 3ft. high. L. Bakerianum (Syn. L. Lowi) comes from Burma, grows 2 to 3ft. high, and bears bellshaped flowers, white to yellow, and spotted with violet in July. 1. Batemanniæ is a beautiful species, with apricotcoloured flowers borne in August; height 2 to 3ft. L. Bolanderi hails from Oregon, grows 3ft. high, and bears crimson-red spotted flowers in June. L. Brownii has large trumpet-shaped flowers, white within and brownish-red without. The anthers are brown. It flowers in June and grows 3ft. high. bulbiferum is a very pretty species from Central Europe. growing ift. high and bearing erect crimson and orange flowers in June. L. Burbanki is a deliciously fragrant hybrid lily with pale orange-yellow flowers, spotted with chocolate and flushed with crimson. It grows 4 to 6ft. high, and flowers in July. L. callosum is a Japanese species, with orange-red flowers borne in July. Height 2ft. L. canadense (Canadian Lily) is a lovely Canadian species, with yellow or orange bell-shaped flowers spotted inside. It flowers in July and grows 3ft. high. Flavum is a golden-yellow variety spotted with black, and rubrum one with flowers a red exterior and yellow inside, spotted with black. L. candidum (Madonna Lily) is the familiar old white lily and needs no detailed description. L. carniolicum is a native of Carniola, has red flowers and recurved petals. It flowers in July and grows 3ft. high. L. chalcedonicum is the old Turk's Cap or Martagon Lily. It grows 3 to 4ft. high, has slender stems, and scarlet flowers borne in July. A native of S.E. Europe. Of this species there are two beautiful varieties, namely, Heldreichii, with richer and more massive flowers; and maculatum, with rich scarlet flowers streaked with black on the outside. columbianus comes from British Columbia, grows 2½ft. high, and bears golden-vellow flowers spotted with red in July; a graceful species. L. concolor is a native of Japan, grows only a foot or so high, and bears bright scarlet flowers spotted with dark red in July. L. coridon is of similar growth to the latter species, but has citron-yellow flowers. L. cordifolium is a Japanese species, grows 3ft. high, and bears white tubular flowers in July. L. croceum (orange or Saffron Lily) is a European species, very hardy, and one of the best garden lilies. It grows 3 to 5ft. high, and bears orange flowers in June and July. L. Dalhansoni is a hybrid, bears purplish flowers in June and grows 4ft. high. L. davuricum is a pretty species from Siberia, grows 2 to 3ft. high, and bears yellow flowers flushed with red and spotted with black in June. L. giganteum is one of the noblest of the Lily family. It comes from the Himalayas, grows 10 to 14ft. high, and bears white tubular flowers streaked inside with purple in July. It has also very handsome foliage. L. elegans (Syn. L. thunbergianum) is one of the showiest garden lilies. It grows about a foot high, and bears scarlet-orange flowers spotted with orange in June and July. A native of Japan. Of this species there

are at least a dozen varieties, all very beautiful. They are alutaceum, apricot, spotted black; atrosanguineum, deep red, spotted black; aurantiacum verum, citron yellow; Beautiful Star, orange-red; bicolor, orange-red and yellow; flore pleno, red, semi-double; Marmoratum aureus, orange-yellow, spotted crimson; Orange Queen, bright orange, dark spots; ornatum, orange-vellow, spotted black; Prince of Orange, apricot-yellow; sanguineum, light red, black spots; The Sultan, dark crimson; Van Houttei, crimson; venustum, orange-yellow; venustum macranthum, clear orange; and Wilsoni, apricot-yellow, spotted purple, 2ft. L. Gravi is a native of N. Carolina, grows 4ft. high, and bears dark red bell-shaped flowers, spotted with purple, in July. L. Hansoni is a native of Japan, has rich golden-yellow flowers, spotted with black borne in July, and grows 3 to 4ft. high. L. Henryi is another Japanese species, growing 3 to 6ft. high, and bearing in August and September deep orange-vellow flowers. L. Humboldtii comes from California, has golden-yellow flowers, spotted with purple, borne in July, and grows 4 to 5ft. high. Magnificum is a splendid variety of it with spikes 4 to 5ft. high, carrying golden flowers stained with purple. L. japonicum is a Japanese species of delicate constitution. It bears ivory-white, funnel-shaped, fragrant flowers in July, and grows 2ft. high. Colchesterense is a better form of it with creamy-yellow flowers, changing to white; L. Kelloggii is a new species, growing 2 to 3ft. high, and bearing pinkish flowers with recurved petals in July. L. kewense is a hybrid, bearing buff-coloured flowers shading to creamy-white in July. It grows 4 to 6ft. high. L. Krameri is of Japanese origin, has pink flowers borne in July, and grows 21ft. high: L. Leitchlinii also hails from Japan, has citronyellow flowers, spotted with purple, borne in August, and grows 3 to 4ft. high. L. longiflorum has white trumpet-shaped flowers borne in August; height 2 to 3ft. A native of Japan. The following are varieties of it: Harrisii (Bermuda Lily), with white flowers 8 to 10in, long and 4 to 6ir, wide at the mouth; Takesima grandiflorum, flowers white inside and brown outside; and Wilsoni, very large white flowers. I.. Marhan is a hybrid with flowers of a clear orange, spotted and streaked with reddish-brown. It flowers in July, and grows 4 to 5ft. high. Ellen Willmott is a more robust variety of the latter. L. maritimum is a Californian lily, with small rich red flowers spotted with purple. It grows 2ft, high and flowers in July. L. Martagon (Turk's Cap Lilv) is a European species long grown in English gardens. It bears purplish-red and carminespotted flowers with recurved petals, and blooms in July. Height, 3ft. Album is a variety with pure white waxy flowers. Dalmaticum is another form, growing 5 to 6ft. high, and

bearing light to dark purple flowers. L. monadelphum is a beautiful Caucasican lily, growing 4 to 5ft. high, and bearing bright yellow flowers tinted with red in June. Szovitsianum or colchicum is a variety of it with straw-yellow and black spotted flowers. L. pardalinum (Leopard Lily) is an attractive Californian species, bearing bright orange flowers, spotted with crimson, in July. It grows 4 to 6ft. high, and is one of the showiest garden lilies. There are several varieties of it, viz., Bourgæi, crimson-orange and maroon; californicum, deep orange and maroon; Johnsoni, flowers prettily spotted; Michauxi, flowering in August; and minor, orange, black and crimson. L. Parryi is a charming lily from California. It bears highly fragrant citron-vellow and chocolate-brown nodding flowers in July, and grows 3 to 4ft. high. L. parvum is a graceful species, with canary-yellow and red flowers borne in June, and growing 4 to 5ft. high. L. philadelphicum is another pretty species. It has yellow, maroon and scarlet nowers borne in July, and grows only 18in. high. L. pomponum verum has rich scarlet Turk's Cap-like flowers borne in June, and grows 3ft. high. The flowers have a strong odour, not always pleasing. L. pyrenaicum (Pyrenean Lily) is another strongly-scented species, with yellow flowers spotted with black. Blooms in June. Height 2ft. L. Ræzli is a Californian species. It grows 2 to 3ft. high, and bears brilliant orange-red flowers spotted with purple in June. L. rubellum comes from Japan, bears rosy-pink flowers, which are pleasingly fragrant, in June, and grows 4ft, high. L. rubescens is similar to L. washingtonianum, and has white or pinkish-white flowers borne in June. L. speciosum, a native of Japan, is one of the most popular lilies in cultivation. The following forms of it are exceedingly showy and beautiful: Album Kraetzeri, pure white with a band of green down each petal: novum, pure white petals and golden anthers; compactum, flowers very highly coloured; cruentum, also richly coloured; macranthum, deep rose; magnificum, rich ruby carmine and white flowers, 6in. across, very fine; Melpomene, dark crimson-purple; roseum superbum, large rose flowers; album, white; rubrum, white and crimson; and punctatum, white and The foregoing flower in August and September, and grow 4 to 5ft. high. L. sulphureum is a new species, with large tubular-shaped flowers, yellow inside and brown without. Flowers in September and grows 5 to 6ft. high. L. superbum (Swamp Lily) comes from the United States, and is a very handsome species. It has orange-crimson and violet-purple spotted flowers borne in July and August. Height 6 to 7ft. L. tenuifolium is a Siberian species, with graceful foliage and scarlet flowers borne in June. Height 18in. L. tigrinum

(Tiger Lilv) is a well-known species. It bears orange-red and dark-spotted flowers in August, and grows 4ft. high. One of the easiest grown and showiest lilies in cultivation. Fortunei giganteum is a variety of a more free-flowering habit; flore pleno, a double-flowered variety; and splendens, a form with richer colours and larger spots than the parent. L. testaceum Syn. L. excelsum) is a hybrid, growing 5 to 6ft. high, and bearing nankeen-yellow or orange flowers in July. L. umbellatum is another hybrid lily of which there are several pretty forms, as, Diadem, crimson and yellow; grandiflorum, orangered; erectum, red and orange; Sappho, orange and red; Cloth of Gold, golden-vellow; and Tottenhami, yellow and red. They grow 2ft. high, and flower in June and July. L. washingtonianum is a Californian lilv, with sweet-scented white and lilac flowers borne in July. Height 4 to 5ft. Purpureum is a pretty variety of it with white and red spotted flowers.

A word as to the culture of lilies. Some of the foregoing kinds will succeed in ordinary soil; others in a prepared soil of loam, leaf-mould and peat; and others in peat and leaf-mould only. We shall therefore divide the lilies into three groups and deal with each separately so far as soil and position are concerned.

In the first group, which includes the following species and their varieties, namely: Batemanniæ, bulbiferum, candidum, chalcedonicum, concolor, coridon, croceum, davuricum, excelsum, elegans, Hansoni, Henryi, longiflorum, Marhan, Martagon, pomponium, pyrenaicum, speciosum, tenuifolium, tigrinum, and umbellatum, ordinary garden soil will suffice. If it should be heavy lighten it with sand and rotten manure; if very light, add rotten cow manure. Dig the soil deeply, and then the lilies will not fail to do well. The foregoing kinds will all do best in a sunny bed or border.

In the second group a rich, deep and good soil is essential. Peat and leaf-mould should be freely mixed with the natural soil. The subsoil must also be fairly moist. Where there is the slightest risk of the subsoil being dry, take out the soil to a depth of 2ft., and place 6in. of cow manure at the bottom, then 6in. of soil on top, and fill up with equal parts of loam, peat, leaf-mould and sand. Do not mix manure with the upper layer of soil. In such a soil the following species and varieties will succeed: Auratum, Bakerianum, Bolanderi, Brownii, callosum, columbianum, cordifolium, giganteum, Humboldtii, japonicum, Kelloggii, kewense, Krameri, Leitchlini, Martagon album and dalmaticum, Maximowiczii, monadelphum, pulchellum, rubellum, washingtonianum, and sulphureum.

In the third group we have lilies that require special soil, shade and moisture. Thus, beds of peat and leaf-mould, or leaf-mould only, are essential, and these should be in partial shade. The beds should be made between peat-loving shrubs in the bog garden or on the margins of a pond or lake where the Lily roots can get plenty of moisture in summer. The species that require to be grown thus are: Burbanki, canadense, carniolicum, pardalinum, Parryi, philadelphicum, Roezli, rubescens, and superbum.

Generally speaking, all lilies are the better for having their bulbs and roots shaded from hot sunshine, and hence it is always an advantage to plant the bulbs in shrubberies or borders where foliage can shield the soil from the sun. Lilies, moreover, also show to the best effect when grouped or massed together, not grown singly dotted about the borders. It is wise, too, to plant each species and its varieties by itself, then the effect is more pleasing. Lilies look well grouped among hardy ferns or peeping here and there out of shrubs.

As to planting and the time to plant. The planting may be done in October and November or in March. The earlier period is the best where home-grown bulbs can be obtained. The bulbs should be planted 3in. deep, each bulb being placed on a layer of silver sand and also surrounded by it before covering in with soil. In the case of imported bulbs examine them carefully and remove all dead scales, then place the bulbs in cocoanut-fibre refuse in shallow boxes for a few weeks to enable them to regain their normal plumpness before replanting. Just before planting also see that plenty of flowers of sulphur is freely blown into the scales of the imported bulbs.

The subsequent culture of lilies is confined to giving the beds an annual top-dressing of decayed manure in early spring. This precaution is especially necessary in the case of stem-rooting kinds like auratum, Alexandræ, Batemanniæ, Brownii, croceum, Dalhansoni, elegans, Hansoni, Henryi, Krameri, longiflorum, speciosum, and tigrinum, as the roots are greatly benefited by the manure. In dry weather, moreover, plenty of water is required, as lilies love moisture. An occasional dose of weak liquid manure will be helpful to bulbs that are flowering freely. So long as lilies are doing well do not interfere with them. When kinds like candidum fail to flower, lift the bulbs at the end of July and replant in a fresh site, then the bulbs may flower in a year or so.

Propagation is effected by offsets removed in autumn; by scales of the bulbs planted in boxes of sandy soil in a cold

frame; and by seeds sown as soon as ripe in loam, peat and leaf-mould in a cold frame. Seedlings do not flower till four or five years old.

Milla.—M. biflora, the only species grown, is a Mexican bulbous plant, bearing deliciously fragrant white blossoms in August. The leaves are narrow and grassy. This charming plant can be grown outdoors in the south, and then only in a warm sunny border or on a rockery. Sandy loam suits its requirements best. The bulbs should be planted in March, and lifted, dried and stored away in September or October after flowering, where there is any risk of their being killed by damp in winter. Nat. Ord. Liliaceæ (Lily family).

Muscari (Grape Hyacinth).—The Muscaris are charming hardy bulbous plants, suitable for growing on rockeries, in masses in the mixed borders, in the woodland garden, on hedge banks, or in turf. They belong to the Lily order (Liliaceæ). M. armeniacum, a native of Armenia, growing 6in. high, and bearing fragrant ultramarine blue flowers in March, is a very beautiful species. M. botryoides (Italian Grape Hyacinth) is another pretty European species, bearing sky-blue flowers in small dense spikes in March. Album (Pearls of Spain) is a white form of it; candidum, another variety, with white and rose-tinted flowers; and pallidium grandiflorum, a pale azure-blue variety. Height 6 to 10in. M. comosum (Tassel Hyacinth) is a curious and interesting species, bearing blue flowers in loose racemes or tassels in April. Its variety monstrosum (Feather Hyacinth) bears sterile bluish-violet flowers, the filaments of which are twisted and waved into a feathery mass of inflorescence. Height 12in. M. conicum (Heavenly Blue) has lovely gentian-blue flowers possessing a delightful fragrance. The flowers have long stalks and are useful for cutting. A splendid kind for naturalising in grass, borders or hedge banks. A native of Height 6in. M. Heldreichii (Greek Grape Hyacinth) bears blue flowers in large racemes in April. Other interesting species are M. moschatum (Musk Hyacinth), with purplish-violet sweet-scented flowers borne in March and April; M. neglectum majus (Starch Hyacinth), blue-black, flowering in March; M. paradoxum (Caucasican Starch Hyacinth), blue-black; and M. plumosum (Ostrich Feather Hyacinth), mauve, borne in tassel-like plumes in spring. Plant the bulbs 3in. deep and 3in. apart in good ordinary soil in early autumn. Best grown in bold masses. Once planted do not disturb the bulbs. Increased by offsets in late summer or early autumn,

Narcissus (Daffodil).—A genus of beautiful spring-flowering bulbs, belonging to the Amaryllis order (Amaryllidaceæ). The Narcissi are cosmopolitan in their requirements. They do equally in beds, in borders, in woodland gardens, or in masses in turf on the lawn or the meadow. It is, perhaps, under the latter form of cultivation that they show to the best advantage, the emerald-green turf forming a charming setting to their lovely flowers. The Narcissi are varied in the form of their flowers, and specialists have classified them into three main groups, namely (1) Magni-coronata or Trumpet Daffodils; (2), Medio-coronati, or Chalice-cupped Daffodils or Star Narcissi; and (3) Parvi-coronati or Poet's Narcissi.

In the first group we get varieties with large crowns or trumpets either yellow or primrose in colour, and others with a white perianth and yellow or primrose trumpets. The latter are called bicolors. In the second group the crown or cup is much shorter than in the Trumpet section; and in the third group the cup or crown is shorter still. The Emperor is a typical yellow Trumpet daffodil; Horsefieldi a good type of the white and yellow or bicolor Trumpet daffodil; Sir Watkin of the Chalice-cupped group; and the Poet's Narcissus

of the third group.

TRUMPET DAFFODILS.—Space will not permit us to describe more than a short selection of the various varieties in each The best yellow and primrose varieties are: Ard Righ, yellow; Countess of Annesley, perianth sulphur-yellow, trumpet yellow; Emperor, perianth primrose, trumpet yellow; Glory of Leiden, perianth pale yellow, trumpet yellow; Golden Spur, rich yellow; Henry Irving, yellow; Lord Roberts, golden-yellow; maximus, golden-yellow; M. J. Berkeley, yellow; obvallaris (Tenby Daffodil), yellow; P. R. Barr, perianth primrose and trumpet yellow; Rugilobus, perianth primrose, trumpet yellow. Bicolor varieties with white perianths and yellow trumpets: Empress, grandis, Horsfieldi, J. B. Camm. lobularis, Michael Foster, Mrs. Walter Ware, princeps, Proserpine, Victoria, Lent Lily, and Weardale Perfection. Silverywhite perianth and primrose trumpet varieties: Cernuus, Cernuus pulcher, Colleen Bawn, Grace Darling, Madame de Graaff, Mrs. Camm, moschatus, Pallidus præcox, Snowflake, Sulphur King, and William Golding. Other trumpet varieties: N. Johnstoni Queen of Spain, a variety with reflexed perianth and small trumpet; colour clear yellow; a charming kind. N. cyclamineus (Cyclamen-flowered Daffodil); perianth reflexed; trumpet small; colour yellow; very dainty. N. bulbocodium (Hooped Petticoat Daffodil); very dwarf daffodils with large expanded sulphur, white or yellow trumpets and small perianths. N. Humei, perianth drooping over trumpet. N. Backhousei, a race with trumpets nearly as large as the perianths. N. tridymus, a race of hybrids bearing several small sweet-scented flowers on one stem. Then there are several double-flowered trumpet daffodils. There is, for example, the Old Double White (Cernuus plenus); Lobularis plenus (Dwarf Double Sweet-scented Daffodil); Pseudonarcissus plenus (Double Lent Lily); Scoticus plenus (Double Scotch Daffodil); and Telemonius plenus (Double Goldenyellow Daffodil).

CHALICE-CUPPED OR STAR NARCISSI.—This is an extremely beautiful and interesting group of Narcissi, divided into several classes. The varieties of N. incomparabilis worthy of note are: Autocrat, yellow cup and perianth; Beauty, sulphuryellow perianth and yellow cup, edged with orange-scarlet; C. J. Backhouse, perianth yellow, cup orange-red; Cynosure, perianth primrose and white, cup orange-red; Frank Miles, yellow; Gloria Mundi, perianth rich yellow, cup orangescarlet, very fine; King of the Netherlands, perianth sulphur, cup orange; Lulworth, perianth white, cup orange-red; Mary Anderson, perianth white, cup orange-scarlet; Princess Mary, perianth creamy-white, cup orange; Sir Watkin, perianth sulphur, cup yellow; and Stella superba, perianth white, cup yellow. There are also double forms of N. incomparabilis, viz., Butter and Eggs, yellow and orange; Eggs and Bacon, white and reddish-orange; and Codlins and Cream, white and sulphur. The next class in this group is the Silver White Star or Eucharis-flowered Narcissi, forms of N. Leedsii. These have star-shaped flowers which are very chaste and beautiful and in many cases sweet-scented. Here are the best of them: Leedsii, silvery-white, fragrant; amabilis, perianth silverywhite, cup apricot; Beatrice, pure white, very sweet; Bridesmaid, perianth fine white, cup primrose; Duchess of Westminster, perianth white, cup canary-yellow; Grand Duchess, perianth white, cup apricot-orange; Hon. Mrs. Barton, perianth, white, cup primrose; Modesty, white; Princess Maud, perianth white, cup primrose; Princess of Wales, white; Una, perianth white, cup citron; White Lady, perianth white, cup canary-yellow. The third class in the group is N. Barrii, a very pretty race of Narcissi. The following are typical sorts, worthy of a place in any garden. Albatross, perianth white, cup citron-yellow, edged with orange-red; Cecily Hill, perianth soft yellow, cup yellow and orange, edged with cinnabar-red; Conspicuous, perianth yellow, cup yellow, edged with orange-scarlet; Crown Prince, perianth white, cup orange-red; Cupid, perianth white, cup yellow and apricot, scented; Dorothy E. Wemyss, perianth white, cup canaryvellow, edged with orange-scarlet; Flora Wilson, perianth

white, cup orange-scarlet; Lady Godiva, white; Mrs. C. Bowley, perianth white, cup orange-red; Orphee, perianth primrose, cup edged with orange-scarlet; Seagull, perianth white, cup canary-yellow, edged with apricot; Sensation, perianth white, cup canary-yellow, edged with orange-scarlet. Other distinct types in this group are N. Nelsoni, having flowers with goblet-shaped cups and white perianths, of which Mrs. Backhouse, Resolute and William Backhouse are charming varieties; and N. triandrus albus (Angel's Tears), a dainty, chaste and elegant kind, with creamy-white cyclamen-like flowers and reflexed petals. The Jonquils belong to this group also. There is the Rush-leaved Jonquil (N. juncifolius), a dwarf kind, with rush-like foliage and small yellow fragrant flowers; N. odorus (Campernelle Jonquil), with yellow flowers, several on a stem; N. rugulosus, yellow with wrinkled cup; N. odorus plenus (Queen Anne's Jonquil), with double-yellow sweet-scented flowers; and Campernelli plenus, with double-

yellow sweet-scented flowers.

POET'S DAFFODIL OR NARCISSUS.—In this, the last group, we have a charming race of Narcissi with graceful and pretty Here, again, the varieties are grouped in various classes. First comes the forms of N. Burbidgei, a race of hybrids. The cup in this class is longer and not so flat as in the true Poet's type. Burbidgei has a white perianth and a primrose cup margined with cinnabar red; Ellen Barr, a snowwhite perianth and a citron cup, stained with orange-scarlet; Beatrice Heseltine, a creamy-white perianth and a primrose cup edged with orange scarlet; John Bain, a white perianth and citron cup; Falstaff, a white perianth and lemon cup margined with orange; and Little Dorrit, cowslip-yellow edged with orange-red. Another and new class of hybrids in this group is N. Engleheartii. These have flattened and prettily fluted cups. Sequin, white perianth and golden cup; Thisbe, white perianth and canary-yellow cup margined with orangered; and Gold-eye, white perianth and a brilliant yellow cup margined with orange-red, are representative varieties of this class. Then we have the Poet's Narcissus, of which the Old Pheasant's Eye, with a pure white perianth and a cup margined with orange-red, fragrant; Ornatus (Early Poet's Narcissus), perianth white, cup margined with scarlet; Poeticus. perianth white, cup edged with saffron, are good examples. There is also the Double White Poet's or Gardenia-flowered Daffodil, with snowy-white fragrant flowers. come the Peerless Daffodil (N. biflorus), with a white perianth and yellow crown; N. jonquilla (Single Sweet Jonquil), with vellow fragrant flowers; Double Jonquil (N. j. flore pleno), with double vellow fragrant flowers; and the Nosegay or Polyanthus Narcissi (N. tazetta), of which Grand Monarque, Grand Soleil d'Or, and Jaune Supreme are representative sorts.

As previously intimated, the various groups of daffodils are adapted for cultivation in various ways, and one of their chief charms, apart from decorating the garden, lawn and woodland in spring, is the great value of their flowers for cutting. The Chalice Cup, Leedsii, Barrii and Poet's kinds

are extremely good for the latter purpose.

The secret of the successful culture of daffodils in beds or borders is to thoroughly prepare the soil beforehand. It should be deeply dug and have some well-rotted manure placed a foot below the surface. Manure must on no account come in contact with the bulbs. Where the soil is of a loamy nature basic slag may be applied at the rate of 6oz. per square yard, or bone-meal at the rate of 40z. per square yard, before planting. In the case of sandy soils, which are usually deficient in potash, sulphate of potash may be added at the rate of ½oz. per square yard. A thin dressing of lime is also beneficial. The best time to plant is during September and October, and the bulbs, according to their size, should be planted so that their tops are two to three inches below the surface. Where the soil is very light the bulbs may be put in an inch deeper to avoid the risk of their being drawn up by frost. The distance apart should vary according to size from three to six inches. In planting in borders daffodils do not look well arranged in rows; they will look far better grouped in masses of one or more dozen bulbs.

The most picturesque way of growing Narcissi is in bold masses in the turf of the lawn, park or meadow, or in the woodland, waterside, or wild garden. No other flower yields such a charming effect when in bloom as a mass of Narcissi. Almost any of the Narcissi may be grown thus, but more especially the incomparabilis, Barrii, Leedsii, Poets', and Trumpet kinds. The best way to plant the bulbs is to sow them freely in a given spot, and then to plant them where they lie by means of a dibber or Barr's Bulb Planter. Make the holes three to four inches deep, drop the bulbs in and fill up with soil. In small gardens the fringe of trees, nooks at the base of rock beds, etc., are suitable places to plant small groups of bulbs. In this case lift the turf, fork up the soil, add a little bone-meal, and then just press the bulbs into the mould and replace the turf.

Choice kinds like the Hoop Petticoat, Angel's Tears, and Cyclamen-flowered Daffodils may be grown on rockeries.

As regards the general culture of Narcissi the main points are: (1) Not to plant in soils containing manure near the



THE NOBLE PAMPAS GRASS (CORTADERIA ARGENTEUM).

Gee p. 292 for description and culture.



A GOOD EXAMPLE OF A HARDY PLANT BORDER.

The border is filled chiefly with hardy perennials, annuals, and biennials, with pillar roses growing in the background. See p. 55.

bulbs; (2) not to disturb the bulbs oftener than once in three or four years when grown in borders, and not at all in the case of those grown in grass; (3) when lifting is necessary do it directly the foliage dies, dry and store the bulbs away in a cool place till September, when replant; (4) never cut the grass where bulbs are grown in turf till the foliage turns yellow in June; (5), and where Narcissi are grown in beds or borders where it is necessary the bulbs should be lifted in June, always replant them in a spare border to complete their growth before drying and storing away; and (6) always plant in dry weather.

As to propagation, Narcissi are readily obtained by offsets at lifting time. These should be planted in nursery beds, and those be marked with sticks that flower the next season for lifting and replanting permanently. Narcissi are also readily reared from seed sown when ripe in sandy soil in cold frames. The seedlings have to be grown on in beds for four or five

years ere they flower.

Ornithogalum (Star of Bethlehem).—A genus of S. European bulbous plants, suitable for naturalising in the grass, woodland borders, wild garden, or growing in groups in borders. The species worthy of culture are: O. arabicum, bearing large creamy-white flowers with yellow anthers and black ovaries in June; O. rutans, white flowers borne in drooping racemes in April and May; O. pyramidale, flowers white striped with green at the back, and borne in July; O. pyrenaicum, yellow-green flowers striped with green at back, July; and O. umbellatum, white, striped green at back, and borne in umbels in May. The foregoing from 6 to 18in. high. O. arabicum should be grown on a sheltered rockery; the rest massed in grass or shady borders. Plant the bulbs 3in. deep and 3in. apart in September or October. Ordinary soil will suffice. The flowers emit a somewhat strong odour. Increased by offsets after the foliage has decayed. Lily order (Liliaceæ).

Oxalis.—For culture of bulbous-rooted kinds see Hardy Perennial section.

Pancratium.—P. illyricum, the only hardy species of this genus of bulbous plants, bears white, sweet-scented, funnel-shaped flowers in umbels on scapes 1 to 2ft. long, in June. It is a graceful lily-like plant, and a native of S. Europe. The bulbs should be planted in sandy loam mixed with a little leaf-mould in October or November. Plant the bulbs 4 to 6in. deep and a foot apart. A warm, well-drained border at the foot of a south wall is the best position for

this plant. In winter protect with a covering of bracken or dry leaves. Increased by offsets early in October. Nat. Ord. Amaryllidaceæ (Amaryllis family).

Phædranassa (Queen Lily).—Beautiful but somewhat tender bulbous plants, belonging to the Amaryllis order (Amaryllidaceæ), and natives of S. America. The species suitable for outdoor culture are P. chloracea, yellow, fragrant, 1½ft.; P. schizantha, vermilion-yellow and green, 1½ft.; and P. ventricosa, scarlet, 1½ft. All flower in spring. The foregoing require a deep, well-drained sandy soil and a sunny position such as a border at the base of a south wall. Plant the bulbs 4 to 6in. deep in October or March. Protect in winter by a covering of bracken fern or tree leaves. Increased by offsets.

Polianthes (Tuberose).—The fragrant Tuberose is best known as a greenhouse plant, but it will also grow and flower well outdoors in mild districts. The species, P. tuberosa, is a native of Mexico, and has tuberous root-stocks, narrow leaves and white fragrant flowers borne in spikes on stems 2 to 3ft. high, in August. The double varieties, Double African, American, Italian, and Pearl are the most generally grown kinds. The Pearl is the best of the group. Tubers of the latter are obtainable in January, and may be either started in small pots in gentle heat, hardened off in May and planted out in June; or, planted 3in. deep and 6in. apart in a sunny border in March. In warm districts the tubers may be left in the ground, but in less favoured parts it is wise to lift them in October, store in a heated greenhouse till March, then replant. Generally speaking, the best results are obtained by planting fresh tubers annually, discarding the old ones. Nat. Ord. Amaryllidaceæ (Amaryllis family).

Puschkinia (Striped Squill).—P. scilloides (Syn. P. libanotica) is a dainty squill-like bulbous plant, a native of Asia Minor, and a member of the Lily order (Liliaceæ). It grows 4 to 6in. high, and bears small white or pale blue flowers striped with deep blue in April. Compacta is a variety of it with trusses of a more compact character. A dainty plant to grow in nooks on a sunny rockery or in groups in a sunny border. It requires a deep sandy soil mixed with leaf mould. Plants the bulbs in September 4in. deep and 3in. apart. In severe winter protect the bed with a layer of bracken or dried leaves. It is advisable to lift and replant the bulbs every third year. Increased by offsets in September.

Ranunculus.—Here we have space to deal with the tuberous-rooted species only; the rest of the genus being dealt

with in the perennial section. The various kinds grown in gardens under the names of Turban, Persian, Scotch, Dutch, Italian and French Ranunculi are forms of R. asiaticus, a European or Asiatic species. They have claw-like roots or tubers, and bear single, double or semi-double flowers of various colours in early summer. The Turban kinds are large, double, rose-like and self-coloured, the chief colours being yellow, crimson, orange, rose, scarlet, and white. The French and Italian strain yield larger flowers and have a more robust habit. The Persian kinds have finely formed double flowers, are very compact in growth, and their colours very rich and striking. The Scotch and Dutch forms are merely dwarfer varieties of the latter with edged or spotted double flowers. The Turban type is the hardiest. They require a light, rich and fairly moist soil. The beds in which they are to be grown should be deeply dug and have plenty of rotten cow dung and leaf-mould mixed with the soil. A partially shady position suits them best. Planting may be done in the case of the Turban kinds in October or February; in that of the Persian type from February to April. Draw drills 2in, deep and 4in. apart and plant the roots, claw-side downwards, 3in. apart, in the drills, then cover with soil. During dry weather in spring and early summer give copious waterings to the soil. the flower buds begin to show sprinkle a little artificial manure between the plants and water it in. If the soil be very light apply a mulch of rotten manure to the bed. As soon as the leaves fade lift the roots, dry and store them away in a cool place till planting time. Increased by seeds sown in light soil in a cold frame in August, growing the seedlings on in beds till they flower four years afterwards. Also increased by offsets of the old roots.

Scilla (Squill or Bluebell).—Very pretty spring-flowering bulbs, belonging to the Lily order (Liliaceæ). The Common Bluebell of our woodlands, S. festalis (Syn. Hyacinthus nonscriptus) is a well-known native species, bearing blue and occasionally white or pink blossoms in May and June. Of this there are several good varieties, as alba, white; rosea, rosy-red; rubra, deep red; and cernua, bright blue. Another well-known species is the Squill (S. siberica). This species bears lovely porcelain-blue flowers on graceful spikes in February and March. Alba is a white-flowered variety of it. Both are charming kinds for naturalising in grass or growing in beds and borders. Then another fairly well-known species is the Spanish Bluebell (S. hispanica). This, known as S. campanulata, soon grows into compact tufts of grassy foliage, from which issue numerous spike of porcelain-blue flowers in May. Alba, white, and Carnea, pale rose, are two pretty

varieties of it. This is one of the best species for growing it shrubberies or woodlands or in grass. Other interesting species are S. amena (Star Hyacinth), indigo-blue, March and April; S. bifolia, blue, March; S. hyacinthoides, bluish-lilac, April and May; S. italica (Italian Bluebell), blue flowers and blue stamens, fragrant, April and May; and S. peruviana, blue, May and June. The last four should be grown in warm sunny borders in sandy, well-drained soil. S. festalis and S. hispanica are best suited for shrubbery borders and woodland gardens; and S. sibirica may be mixed with snowdrops and grown in the grass, or in masses, or as edgings to beds and borders. Plant the bulbs 3in. deep and 3in. or so apart in September or October. See also remarks on planting crocuses, etc., in grass and elsewhere. Once planted do not disturb the bulbs, then they will multiply and produce a wealth of Increased by offsets in autumn. blossom in spring.

Sparaxis.—A genus of very pretty and showy spring-flowering, bulbous-rooted plants, belonging to the lris order (Iridaceæ), and natives of South Africa. The plants are of slender growth, with narrow leaves and graceful flower-stems, on which are borne flowers, each measuring 2in. in diameter, and of the most pleasing combination of colours. The two species in cultivation are S. grandiflora, deep violet-purple, white or crimson, with a dark-coloured centre, May, 1 to 2ft.; and S. tricolor, orange-red, yellow and purple brown, May. There are a number of very pretty varieties of the latter, the names of which will be found in florists' lists. S. pulcherrima used to be included in this genus, but is now placed in the genus Dierama, which see. The Sparaxi require precisely the same cultural treatment as Ixias, which see.

Sternbergia (Lilv of the Field).—Very pretty bulbous plants, bearing crocus-like flowers, chiefly in autumn. They belong to the Amaryllis order (Amaryllidaceæ), and are natives of Asia Minor. S. lutea (Winter Daffodil) is supposed to be the Lily of the Field alluded to in Holy Writ. It grows about a foot high, has strap-like leaves, and bright yellow, crocuslike flowers borne in September and October. A variety of it named angustifolia is superior to the type, flowering more freely and also making more vigorous growth. Other species are S. colchiflora, dwarf, 3 to 4in., flowers pale yellow, borne in September; S. fischeriana, a vellow-flowered species blooming in April; and S. macrantha, yellow-flowered, blooming in September. These interesting bulbs should be grown in groups on a sunny rockery, or in a well-drained warm border in sandy loam and leaf-mould. Plant the bulbs 4in. deep and 4 to 6in. apart in August or September. In winter add a

covering of bracken or dry leaves as a protection from frost. It is not advisable to disturb the bulbs oftener than once in three years; indeed, where they grow and flower well leave them alone. Increased by offsets removed when the foliage is quite dead.

Tecophilæa (Chilian Crocus).—T. cyanocrocus, the only species, is a native of Chili, has fibrous-coated corms, grows 6 to 9in. high, and bears fragrant, gentian-blue flowers with a white eye in March and April. Leitchlinii is a variety with flowers of a deeper shade of blue. The flowers are crocus-like in shape, and the perfume is similar to that of the violet. Unfortunately, this beautiful plant, which belongs to the Snake's Beard order (Hæmodoraceæ), is only hardy in the south and west. The best position for growing the bulbs is a well-drained raised border at the foot of a south wall. Here plant the bulbs about 4in. deep in sandy peat and leaf-mould early in August. Protect in severe weather by a covering of bracken or dried leaves. Increased by offsets when the foliage has died.

Tigridia (Tiger Flower).—A showy and very handsome genus of Mexican bulbous plants, belonging to the Iris order (Iridaceæ). T. Pavonia grows 1 to 2ft. high, and bears large flowers variegated with violet, yellow and purple tints in summer. There are several varieties of it which are gorgeously beautiful and more brilliant in their colours than the parent species. These are alba, with ivory or pearly-white petals blotched with carmine at the base; grandiflora, flowers large and very brilliant in colour; conchiftora, yellow and red spotted; aurea, old gold, spotted with chocolate; lilacina, crimson-magenta, white centre, and spotted with chocolate; rosea, white, suffused with rose, and maroon centre; immaculata, pure white. T. Pringlei, brilliant scarlet, blotched with crimson, is the only other species. T. Pavonia and its varieties are charming plants to grow in groups in sunny borders or beds. The gorgeously-coloured flowers are seen to their best advantage in the middle of the day. They last in perfection for one day only, but strong bulbs yield a succession of blooms during the summer. They like a deep, rich soil, a sandy loam enriched with plenty of leaf-mould and well-rotted manure. The bulbs should be planted early in April 3in. deep and 6in. apart. In dry weather mulch the soil with decayed manure, and give copious supplies of water. Lift the bulbs at the end of October, dry thoroughly, and store in a cool frost-proof place. Some growers store the bulbs in dry sand. In very warm districts the bulbs may remain permanently in the soil. Increased by offsets; also by seeds sown in heat in spring, and the bulbs grown on in the usual way. Seedlings flower when four years old.

Triteleia (Spring Star-flower).—Dainty and charming spring-flowering bulbous plants, belonging to the Lily order (Liliaceæ). The only species grown is T. uniflora, now classed by botanists in the genus Brodiæa. This comes from Buenos Ayres, grows 6in. high, has narrow leaves and lilac flowers borne singly on purplish stems in April and May. Alba is a white-flowered variety, and violacea, porcelain-blue, striped violet. These three are charming kinds to naturalise in grass, grow in groups on a sunny rockery, or in a border. Their lovely starry blossoms are seen to the best effect on bright sunny days. They will thrive in good ordinary soil. Plant the bulbs 2in. deep and 2 to 3in. apart in September or October. Lifting is only necessary when the bulbs fail to do well. Increased by offsets in September.

Tritonia.—This genus includes the showy bulbous plants grown in gardens under the name of Montbretias. The species named below are natives of South Africa, and belong to the Iris order (Iridaceæ). The slender graceful spikes of flowers borne by these plants are most useful for cutting, lasting a long time in water. T. crocata (Syn. Ixia crocata) grows about 2ft. high, and bears saffron or orange-coloured flowers in June. T. crocosmiæflora (Syn. Montbretia aurec-Pottsii) is a hybrid, growing 2ft. or so high, and bearing branched spikes of brilliant orange-scarlet flowers from July onwards. A valuable species for yielding flowers for cutting. Of the latter there are a number of very beautiful varieties, the most striking being aurea, golden vellow; Bouquet Parfait, orange and vermilion; Drap d'Or, golden, apricot and orangetinted; Etoile de Feu, deep vermilion, shaded orange-scarlet, with golden centre and anthers; Rayon d'Or, golden, shaded orange with a crimson ring; and Solfatara, primrose-yellow. T. Pottsii (Syn. Monthretia Pottsii) is a beautiful species, with brilliant vermilion scarlet flowers. We have no hesitation in describing the foregoing as the most beautiful of all hardy bulbous plants. They should be grown in every garden. sandy or loamy soils that do not get too damp and cold in winter these bulbs will grow into fine bold clumps. They do not thrive in heavy clay soils. In this case make up a special bed for them. Take out 2ft. of clay and put in a mixture of light loam and leaf-mould and a little manure. In ordinary light or loamy soils merely dig in plenty of leaf-mould and decayed cow manure. A sunny position is essential. planting may be done in November or April. In mild districts the former is the best time, and in less favoured parts give the preference to April. Plant the corms or bulbs 3in. deep and 3in. apart in fairly large groups. Those planted in autumn should be protected with a covering of bracken or dried leaves during the winter. As the bulbs have a tendency to rise to the surface, it is a good plant to lift and replant annually in November, adding a little manure to the soil. Some growers lift the bulbs in November, dry and store them away till April, and then replant. This is a good plan to adopt on a heavy soil. Generally speaking, good results are obtained by lifting and replanting every third year. Increased by offsets in autumn, also by seeds sown in sandy soil in a cold frame, and the seedlings grown on till they flower four years later.

Tulipa (Tulip).—The Tulip family is a large one, and contains not only a number of distinct and very pretty species, but also a legion of varieties, divided into several classes or groups. All the various forms in cultivation are exceedingly showy and brilliant, and very popular flowers for decorating our gardens in spring. They display their rich and varied colours to good advantage in beds, in borders, or naturalised in grass, are exceedingly easy to grow, and their comparative cheapness brings them within the reach of the owner of the smallest garden. There is a good deal of romance associated with the Tulip, but as our space is limited we shall not touch even the fringe of this phase of Tulip lore, interesting though it be. We have incidentally mentioned that the Tulip is classified into various groups or sections, and now it will be our business to deal briefly with these. The Tulips belong to the Lily order (Liliaceæ), and are natives of Europe and Asia.

SPECIES.—First of all we will take the species, which are very beautiful and interesting, and suitable to grow in masses in borders or in grass. T. acuminata has curiously formed thread-like petals of a yellow and red-streaked colour, height 17in.; T. biflora major, creamy-white flowers, borne several on a stem, height 8in.; T. villietiana, yellow, margined at the base with orange-red, height 19in.; T. Clusiana (Lady Tulip), rosy-red outside, white and violet inside, height 8in., charming for a rockery; T. Didieri, crimson vermilion, indigo and primrose centre, height 16in.; T. D. alba, a white fragrant variety; T. D. lutescens, pale yellow and greenish-black centre; T. elegans, pointed reflexed petals, crimson-vermilion, yellow centre, height 14in.; T. e. alba, white, edged carmine; T. e. variegata, crimson, striped gold, two lovely varieties; T. gesneriana, flowers large, bell-shaped, scarlet, black centre, purple stamens, fragrant, a handsome species, height 2ft.; T. g. spathulata, crimson-scarlet, blue-black centre; T. g. aurantiaca, scarlet-greenish brown and golden centre height

18in.; T. g. lutea, yellow, height 16in.; T. g. rosea, rosycarmine, blue centre, height 17in.; T. g. Stella, carmine and blue on a white ground, height 18in.; T. Greigi, leaves pale green blotched with purple-brown, flowers orange-scarlet and vellow, black spotted centre, height oin.; T. g. aurea, bright yellow, splashed with yellow on outside, height gin.; T. Haageri, cherry-red outside, yellow and blue-black centre inside, height 6in.; T. Kaufmanniana, petals large, broad and reflexing, creamy-white and carmine-red outside, yellow inside, very elegant, height Sin.; T. K. aurea, golden-yellow, streaked with scarlet outside, height 8in.; T. kolpakowskyana, goldenvellow, shaded with rose outside, height 8 to 12in.; T. Korolkowi, dazzling red, black blotch at base, height 6 to Sin.; T. linifolia, glowing scarlet, height 7in.; T. macrospila, rich crimson-scarlet, yellow and black centre, highly fragrant, height 18in.; T. maculata, bright crimson-red, black and yellow centre, height 20in.; T. mauriana, brilliant-scarlet with yellow centre, very elegant, height 10in.; T. Michelliana, flowers red, black centre, and foliage striped with brown; T. Oculus solis, crimson with black centre, height 12 to 18in.; T. Ostrowskyana, bright red, black centre, stamens purple, height 15in.; T. orphanidea, bright yellow, flushed red, height 12 to 18in.; T. persica, leaves green edged with red, flowers bright yellow within, golden-bronze without, borne several on a stem, fragrant, height 6 to oin.; T. platystigma, magenta, centre pale blue, bordered white, shy bloomer; T. præstans, orangered, borne several on one stem, height 14in.; T. pulchella, crimson-carmine and rose, height 3 to 6in., suitable for rockery culture; T. retroflexa, petals recurving and tapering to a point, bright yellow, an elegant species, height 18in. to 2ft.; T. saxatilis, delicate rose, yellow centre, very beautiful, height min.; T. Sprengeri, orange-scarlet, golden anthers, flowers at end of June, height 18in.; T. stellata, pale vellow inside, rose outside; T. suavolens, bright scarlet bordered with vellow, very fragrant, height 6in.; T. sylvestris (Wild English Tulip), yellow, fragrant, height I to 2ft.; T. triphylla, dark orange, new; T. undulatifolia, leaves May, flowers bell-shaped, greenish-red outside, bright crimson inside, centre black, bordered yellow, height 6 to oin.; T. viridiflora (Green Tulip), green, striped with yellow, height 16in.; T. vitellina, large whitish yellow. All flower in April, May or June.

COTTAGE OR SINGLE TULIPS.—In this section of Tulips we have a race of varieties remarkable for their beauty, elegance and diversity of form, hardiness, more or less dainty colours, and adaptability for naturalising in grass or growing in the mixed borders. Most of the sorts about to be named were originally grown in old cottage and manor gardens. We can

most strongly recommend these Tulips to those who want a really beautiful display of colour in the garden in May and early June. Space will only permit us to give a selection of the many varieties published in trade lists. Our selection is as follows: Albiflora, white, recurved petals, 18in.; Batalini, soft chrome, yellow centre, 8in.; Blushing Bride, white to carmine-rose, centre, peacock-blue, 15in.; Bouton d'Or, goldenyellow, 17in.; Canary Cup, canary-yellow, dark base and purple anthers, 16in.; Cottager's Pink, pink, centre green and yellow, three outer petals recurved, 12in.; Dainty Maid, white ground with rosy-lilac markings, 21in.; flava, lemon yellow, 2ft.; fulgens, vermilion-crimson, white centre, reflexed petals, 2ft.; Gold Cup, yellow, flaked crimson, edged carmine-red, black blotch at base, 15in.; Hatfield Pink, cherry-rose, centre white, petals pointed, 15in.; Irish Beauty, white and rose, centre blue, anthers black, 15in.; La Merveille, salmon-rose and orange-red, yellow centre, fragrant, very elegantly formed, 18in.; Maid of Honour, chrome-yellow and white, margined rose, three outer petals reflexing, 20in.; Merry Maid, rosyscarlet and primrose, long flower, 20in.; Mrs. Moon, goldenyellow, petals long and pointed; Orange Beauty, orange and apricot, 20in.; Orlando, vermilion, centre black and lemon, outer petals reflexed, 14in.; Orpheus, primrose, margined red, centre dark green and lemon, petals reflexed, 21in.; Picotee, white margined rose, recurved petals, 20in.; Rose Mignon, creamy-white, flaked rose, petals reflexed, 16in.; Sweet Nancy, white, edged pink, blue base, violet anthers, 18in.; Yellow Gem, primrose, very elegant flower, 14in.

BEDDING TULIPS.—This section includes the single and double varieties so extensively used for growing in beds to flower in April. These are largely imported from Holland annually, and may be purchased at a cheap rate in mixture or in collections of named varieties. A few of the best single varieties are Duc Van Thol, scarlet, yellow, rose and white varieties; Canary Bird, yellow; Artus, scarlet; Chrysolora, yellow; Cottage Maid, rose and white; Couleur Cardinal, crimson-scarlet; Joost Van Vondel, crimson-scarlet and white: Keizerskroon, scarlet edged yellow; Koh-i-Noor, maroonscarlet: Pottebakker, yellow, scarlet and white varieties; and Vermilion Brilliant, scarlet. Then of double sorts the following are equally good: Bride of Lammermoor, white, flushed rose; Carmen Sylva, rose, flaked white; Imperator rubrorum, scarlet; La Candeur, white; Le Matador, scarlet; Murillo, rose flushed white; Rubra maxima, vermilion; Alba maxima, white; Snowball, white and cream; Tournesol, yellow and scarlet

varieties: Minnie Hawk, carmine-rose.

DARWIN TULIPS .- A class of Tulips bearing self-coloured

regularly formed flowers on stout stems in May. These flowers not only make an attractive show in the garden, but the flowers are also of great value for cutting, as they last a long time in water. The colours are exceedingly beautiful, and of more delicate art shades than is seen in other classes of Tulips. We name a dozen of the most beautiful of the legion of varieties described in trade lists: Carminea, rose, shaded carmine, electric blue base, black anthers, 22in.; Clara Butt, soft rose, outer petals tinged blush, 19in.; Early Dawn, rosyviolet and blush, blue centre, 25in.; Glow, vermilion, centre blue, variegated white, 23in.; Marguerite, blush, 24in.; Mrs. Farncombe Sanders, salmon-rose, tinged scarlet, white centre, 27in.; Pride of Haarlem, salmon-rose, shaded scarlet, electric blue centre, 26in.; Suzon, rosy-blush, centre pale blue and white, 24in.; Tak Van Poortvliet, salmon-rose, blue centre, 25in.; Sultan, maroon-black, 28in.; Zulu, purple black, 28in.; Dorothy, heliotrope and white, 17in.

Parrot Tulips.—The Tulips in this class are noteworthy for their quaintly formed flowers. They have long, more or less curled petals, with ragged or laciniated edges, and the colours are also very rich and varied. Unfortunately they have somewhat weak stems, consequently the heavy flowers do not show to advantage unless the stems are supported by stakes. These Tulips are best suited for border culture, and flower in May. There are very few named varieties. A good mixture will yield a variety of quaintly marked and formed flowers.

REMBRANDT TULIPS.—The Tulips in this class are really varieties of the Darwin Tulip, differing only in the fact that the flowers, instead of being self-coloured, are striped or blotched with various colours. They are very effective kinds for massing in beds or borders.

FLORISTS' TULIPS.—These are the old-fashioned Tulips that florists used to grow with so much pride and success for exhibition. They are not so easily grown as the other kinds, and, moreover, are more costly to purchase. Florists divide the varieties into various groups, as Roses, Bybloemens, and Bizarres. Roses include varieties of all shades of pink, rose, scarlet, crimson and cerise; Bybloemens, those of shades of lilac, lavender, violet, black or purple; and Bizarres, those of orange, scarlet, crimson, brown and black shades. Either of the three foregoing types when grown from seed produce their flowers of one shade of colour, and in this state are called by florists "Mother" or "Breeder" Tulips. Directly the blooms become feathered, flamed or streaked with other colours, the variety is then called a rectified Rose, Bybloemen or Bizarre Tulip. As these Tulips concern the specialist rather than the general gardener we shall not give names of

varieties here. We may add, however, that the "Breeder" or "Mother" Tulips are showy and interesting kinds to grow in beds.

So much for the various types or classes of Tulips, and now for a few words about their cultivation. For bed and border culture bedding Tulips like a fairly rich soil and a sunny position. Planting should be done in October or early November, planting the bulbs 4in. deep and 6in. apart. Between the bulbs, aubrietias, double daisies, forget-me-nots, double arabis, or coloured primroses may be planted to flower directly after the Tulips. These combinations of springflowering bulbs and plants are very effective, and they usually do well together. Where plants are not grown between the bulbs a surface dressing of cocoanut-fibre refuse may be applied after the bulbs are in to give the bed a neat appearance. After flowering, in June, the bulbs may be lifted, spread out to dry, then be cleaned of withered foliage, and stored away till planting time.

The Cottage, Darwin and Parrot Tulips, as well as the species, require similar treatment. Plant the bulbs 4 to 5in. deep and 6in. apart in October or November. The soil should be deep, rich and fairly open, but not contain manure recently added. The Cottage kinds and the species will do best in bold groups in borders or on rockeries. The Darwin and Parrot Tulips are adapted for bed or border culture. The surface of the soil in which the bulbs are to be grown may be planted with dwarf spring-flowering plants, as advised for the Bedding Tulips. The Darwin and Parrot Tulips may be lifted, dried and stored away after flowering, but the old Cottage kinds and the species are best left permanently in the soil, lifting and replanting once in three years.

Tulips may be naturalised in the grass of the lawn, wild garden, or meadow, and very pretty indeed do the flowers look when their blossoms are nestling in their emerald-green setting. The old Cottage kinds and the species are best suited for naturalising, but any of the others will also do fairly well. Scatter the bulbs over the grass in a free natural manner, and then plant the bulbs where they lie about 3in. deep. Use Barr's bulb planter for putting the bulbs in. The grass should not be cut till the end of June to give the bulbs

time to ripen.

A few of the species, such as Griegi, kolpakowskyana, persica, pulchella, and saxatilis, would do well on a sunny rockery, the surface of the soil being carpeted with aubrietias or other dwarf plants.

Increased by seeds and offsets.

Watsonia (Bugle Lily).—A genus of tender bulbous plants, adapted for outdoor culture in the south and west parts of the kingdom only. They resemble the gladioli in growth and flowers. Natives of South Africa, and members of the Iris family (Iridaceæ). Only two species are suitable for outdoor culture, and these, with their respective varieties, are W. meriana, purple-scarlet, May; W. meriana coccinea, scarlet; W. meriana iridifolia, white; W. meriana roseo-alba, pink and white; W. rosea, rose, July. These must be grown in a prepared bed of peat, leaf-mould and loam in a sunny corner of the garden. Plant the bulbs 3in. deep and 3in. apart in autumn, and otherwise treat as advised for early-flowering gladioli. Increased by offsets.

Zephyranthes (Swamp Lilies; Zephyr Flower).—A genus of bulbous plants, few of which are hardy enough to succeed outdoors. The hardiest are Z. atamasco, a native of Virginia, white flowered, June; Z. candida, white and rose, September, native of La Plata; Z. carinata, rosy-pink, June, Central America; Z. rosea, rosy-red, September, Cuba; Z. tubispatha, white fragrant, June, Central America; and Z. Andersoni, red and gold, June, Monte Video. All grow 6 to 8in. high, and require to be grown in well-drained sandy loam in a sunny border, or on a rockery. Plant the bulbs 3in. deep and 3in. apart in September. Lift and replant every third year. In winter protect with bracken or dried tree leaves. Increased by offsets.

HARDY GRASSES.

Agrostis (Cloud Grass).—A genus of flowering grasses (Gramineæ) noteworthy for the elegance of their inflorescence in a living or dried state. When fully developed the inflorescence is very useful for cutting, for mixing with cut flowers for indoor decoration, and if cut directly full development is attained, then tied in small bunches and hung head downwards in a cool shed, it will make a pleasing winter decoration for vases, etc. The seeds should be sown in patches, or in rows, outdoors in April, May, or September. The species worthy of culture are: A. nebulesa, 15in., very fine and elegant; and A. pulchella, dwarf, also very pretty, 6in.; A. minutiflora, very graceful indeed. All are hardy annuals.

Aira (Hair Grass).—Hardy perennial grasses with graceful and elegant inflorescence and fine hair-like foliage. The panicles of flowers are most useful for cutting for indoor floral decoration, or for drying for winter use. The plants, too, make good border edgings. A. flexuosa, or more correctly Deschampsia flexuosa, ift., and A. pulchella, 6 to 8in., are the two species worth growing. Sow the seeds outdoors in April.

Arundo (Great Reed).—Handsome flowering grasses, suitable for growing in groups on the lawn. They have reed-like stems growing from 3 to 12ft, high, furnished with recurved leaves, and bearing panicles of silky white or vellowish inflorescence. A. conspicua (New Zealand Reed) will only succeed in the South of England outdoors, and then only on a rich loamy soil. On heavy soils it invariably dies in winter. A. Donax (Great Reed) is a European species, but not hardy enough to succeed other than in the South of England. There is a pretty variegated form, but it rarely does well outdoors. A. Phragmites (Common Reed), now called Phragmites communis, is a native species, useful for growing near the edges There is a variegated form of it which is still more beautiful than the type. The two first species should be protected in winter by a thick covering of bracken or litter placed round their base, and a thatching of straw or mats placed round the stems. Plant in spring. Increased by seeds sown in heat in spring, the seedlings being afterwards grown on in pots for a year, protected from frost in winter, and planted outside next season. Also by dividing the creeping roots in spring.

Briza (Quaking Grass).—Very graceful and pretty flowering grasses eminently suitable for cutting, for mixing with cut flowers or drying for winter decoration. Hardy annuals or perennials, belonging to the Grass family (Gramineæ). The species usually grown are: B. maxima, annual, S. Europe, 18in.; B. media, perennial, England, 1ft.; and B. minor or gracilis, annual, Britain, 6 to 10in. Sow the seeds thinly in lines or patches in ordinary soil in a sunny position in April. B. media, if it survives the winter, may be divided in spring. For winter decoration cut the inflorescence when fully developed, tie in small bunches and hang heads downward in a cool shed till quite dry.

Bromus (Brome Grass).—A biennial flowering grass, belonging to the Grass family (Gramineæ). The inflorescence is very graceful and most useful for cutting and using in a green state for drying for winter decoration. The species usually cultivated for the above purposes is B. brizæformis; height

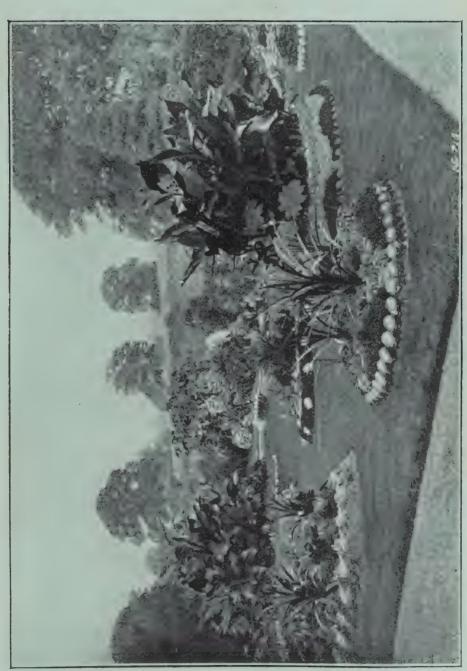
2ft. Sow the seeds in August or September to produce flowering plants the following summer. Seeds sown in spring will not produce plants for blooming the same season. Cut and dry for winter use as advised for Brizas. Native of the Caucasus.

Cortaderia (Pampas Grass).—The Pampas Grass (C. argenteum), better known under the generic name of Gynerium, is a native of S. America and a member of the Grass order (Gramineæ). It is a handsome perennial grass, forming bold tufts of arching, glaucous, green leaves, measuring 4 to 6ft. in length, and bearing elegant, silky feathery plumes of inflorescence on stout stems, 6 to 10ft. high or more, in autumn. A handsome plant to grow in isolated positions on the lawn. It requires a sunny, sheltered position and a deep, rich loamy soil. It does not do well on heavy clay soil, this being too damp and cold in winter. Plant in spring, mulch liberally in spring with rotten manure, and give copious supplies of water in dry weather. Increased by seeds sown in heat in spring, planting out the seedlings in June; also by division in spring. There is a rosy-purple form called purpureum, and also a variegated one. The plumes are useful for drying for winter use. Cut when fully open, and hang flowers downwards in an airy shed for a few weeks to thoroughly dry. Arundo conspicua, described on p. 201, is now included in the present genus.

Elymus (Lyme Grass).—E. arenarius is a native grass with glaucous foliage, which grows into a handsome large tuft in good soils. It grows 4 to 6ft. high. A suitable plant to grow on sandy banks or on the margins of shrubberies. This is the grass which grows freely on our sandy sea-shores, binding the sand together and preventing it drifting away by the action of the wind. Increased by division of the creeping root-stocks in autumn.

Eragrostis (Love Grass).—A genus of beautiful flowering grasses, the inflorescence of which is extremely useful for cutting for mixing with cut flowers, or for drying for winter decoration. E. elegans has very light and graceful inflorescence and is much grown; height 2ft. Other attractive species are E. ægyptica, maxima, and Purshii. All are hardy annuals. The seeds may be sown in patches in the mixed border; or in very shallow drills in a spare corner to yield flowers for cutting to dry. Sow in April. For drying purposes treat as advised for Briza.

Erianthus.—E. Ravennæ is a perennial grass of similar habit to the Pampas Grass. It is a native of the South of



A style of flower garden decoration much in favour during the last century. Foliase plants clifchy AN EXAMPLE OF SUB-TROPICAL BEDDING.



Like the sub-tropical example figured overleaf, this style was also much in favour in the last AN EXAMPLE OF CARPET BEDDING.

France, has graceful arching, violet-tinged leaves and violet-tinted plumes of inflorescence borne on stems 4 to 6ft. high in summer. A handsome plant to grow on the lawn in well-drained soil and a warm sheltered position. Plant in autumn or spring. Increased by division in spring.

Festuca (Fescue Grass).—A genus of grasses (Nat. Ord. Gramineæ), grown in gardens for the sake of their ornamental foliage. F. ovina glauca, a variety of the native Sheep's Fescue Grass, has deep blue-grey bristly leaves, and grows 6 to gin. high. This is an attractive plant for an edging to a border or bed. F. ovina viridis is a pretty, neat-growing, green-leaved form. Other kinds sometimes grown are F. Eskia, green foliage and dense habit, and F. punctoria, with blue-grey, rigid foliage. Plant in autumn or spring. Remove the flower spikes as they form, as they are of no ornamental value. Increased by seeds sown in autumn or spring in a sunny border. Also by division of the tufts in autumn or spring.

Hordeum (Squirrel's Tail Grass).—H. jubatum is a North American annual grass, which grows 2ft. high and bears graceful spikes of inflorescence, furnished with feathery bristles like a squirrel's tail. A pretty grass to grow for cutting and drying for winter use. Sow the seeds out where required to grow in September or April.

Lagurus (Hare's Tail Grass).—L. ovatus is an annual flowering grass, a native of the Channel Islands, and a member of the Grass order (Gramineæ). The plant grows from 8 to 12in. high, has broad leaves, and bears its dense, hairy inflorescence in summer. The inflorescence is somewhat similar to a hare's tail, hence the common name. It is very useful for cutting in a green state to mix with cut flowers, or for cutting and drying when fully developed for winter decoration. Sow outdoors in rows or groups in April. It will thrive in any ordinary soil in a sunny border.

Lamarkia.—Only one species is grown, and this is L. aurea. It grows 6 to 9in. high, and is a native of S. Europe. The inflorescence consists of silky plumes, green at first, but afterwards changing to a lovely golden tint. In the latter state it is a charming subject for mixing with cut flowers. If the inflorescence be cut when fully developed and dried, it may be used with good effect for winter decoration. Sow in April outdoors where required to grow. Ordinary soil and a sunny border will suffice.

Millium (Millet Grass).—Hardy annual grasses grown for the sake of their light, feather, graceful inflorescence,

which is valuable for cutting for mixing with cut flowers. M. effusum is a native species of considerable beauty, and M. nigricans is another good kind of stronger growth. Both are easily reared from seeds sown outdoors in April. Ordinary soil.

Miscanthus.—A genus of ornamental-leaved grasses, natives of Japan, and better known under the generic name of Eulalia. M. japonicus grows 5ft. high, and has green, grassy foliage with white ribs, borne on graceful stems. M. j. folio argenteo-variegata is a variegated form with silvery foliage, and a very elegant graceful plant. M. j. zebrina has green leaves, barred crosswise with vellow; and M. j. stricta leaves barred with larger yellow spots. M. sinensis (Syn. Eulalia gracillima) grows 4 to 5ft. high, and has narrow recurving leaves. A variety named unvittata has a white band running down the centre of each leaf. In summer the plants bear purplish plumes of inflorescence, which add greatly to their effect. All succeed in good ordinary soil in clumps on the lawn; in groups by the water-side; or in mixed borders. Plant in spring. Increased by division in spring; also by seeds sown in heat in spring.

Molinia (Lavender Grass).—The variegated form of M cærulca, a British perennial grass, is a pretty plant to grow in tufts in the mixed border. M. cærulca variegata grows about a foot high and has silvery foliage. Will grow in ordinary soil in sunny borders. Increased by division.

Panicum (Panic Grass).—Hardy annual or perennial grasses, with graceful foliage and elegant panicles of inflorescence. They will grow in ordinary soil in mixed borders and produce a pretty effect in summer. The only annual species is P. capillare. This grows 15 to 20in. high, and bears large pyramidal panicles of charming inflorescence in summer. Sow seeds where required to grow in April. The perennial species are: P. altissimum, 3 to 5ft., panicles large, much branched, and inflorescence deep red; P. bulbosum, 5ft., panicles large and spreading; and P. virgatum, very handsome, 3 to 4ft. panicles feathery and drooping. The latter makes a fine subject for grouping on lawns, and the inflorescence is valuable and graceful for cutting. Plant in autumn. Increased by seeds in April; division in autumn.

Pennisetum.—A genus of flowering grasses, one species only (P. longistylum) of which is worth growing. This is a hardy perennial, growing 2ft. high, and bearing spikes of inflorescence covered with a purplish feathery down in summer. The foliage, too, is very graceful. A pretty grass for the mixed border and for yielding elegant inflorescence for

cutting. Will grow in ordinary soil. Sow seeds outdoors in April, or divide the plants in autumn.

Phalaris (Ribbon Grass).—P. arundinacea is a native grass growing 3 to 6ft. high on the margins of ponds, etc. It is a graceful plant and well worth growing by the sides of lakes, etc. Of still greater value, however, is the Ribbon Grass, or Gardener's Garter Grass (P. arundinacea variegata), a plant with silvery foliage which is of a rosy tint when young. This is a very ornamental perennial to grow in moist borders in sun or shade. It grows from 2 to 3ft. high. Best divided every two or three years. The foliage comes in most useful for cutting for decoration. In some books this plant is referred to under the name of Digraphis arundinacea.

Saccharum.—A genus of hardy ornamental grasses, of which S. ægypticum, a native of Algeria, is the only species really worth growing. It grows about 7ft. high, has long, ribbon-like leaves with white midribs, and is covered with grey silky hairs. A handsome plant to grow by the waterside in warm, sheltered positions. Plant in spring in good ordinary soil. Increased by division. Related to the Sugar Cane (Saccharum officinarium).

Stipa (Feather Grass).—Hardy perennial grasses, belonging to the Grass order (Gramineæ), and yielding elegant plumes of inflorescence of special value for cutting for floral decorations or drying for winter use. The species named below will thrive in a deep sandy loam or good ordinary soil and a sunny border. Increased by seeds sown outdoors in April or division in autumn. The three kinds worthy of culture: S. pennata (Feather Grass), 2ft., S. Europe; S. Lagascæ, 3ft.; and S. elegantissima, Australia, 3ft.

Uniola (Seaside Oat).—U. latifolia is a North American perennial grass, growing 2 to 4ft. high, and bearing in August large loose panicles of inflorescence valuable for cutting for floral decoration. Will grow in ordinary rich soil in an isolated group on the grass or in the borders. Plant in spring and protect in severe winters by placing bracken or litter round the plant. Increased by division. Nat. Ord. Gramineæ.

Zizania (Canadian Rice; Water Oat).—Z. aquatica is a North American perennial grass, suitable for growing on the margins of shallow water-courses or ponds. It grows 5 to 6ft. high, and forms a handsome and graceful plant when in flower during the summer. Z. latifolia is a Japanese species suitable for similar culture. Plant in the mud in spring. Increased by division in April.

HARDY ORCHIDS.

Bletia.—A genus of interesting perennials, of which one species only, B. hyacinthina, rosy-pink, is adapted for outdoor cultivation. It hails from China. Nat .Ord. Orchidaceæ. It requires to be grown in peaty soil, in company with other hardy orchids. The bed should be in a position with a southeast or south-west aspect, and where it can be screened from the midday sun by trees. Dig out the soil to a depth of 2 to 3ft. and put in 6in. or so of rubble as drainage; then, by means of large stones or rock, divide the bed into three parts, filling one with peat, another with equal parts of peat, loam and leaf-mould, and another with turfy loam and old mortar. In the first division grow Bletias, Habenarias, and Cypripediums; in the second, Orchises; and the third Ophrys or Bee Orchids. Plant in spring. Keep moist in dry weather.

Calopogon.—An orchidaceous plant, hailing from N. America, and adapted for growing in the bog garden, hardy fernery, or on a rockery. The only species is C. pulchellus, and this bears pink or purplish flowers late in the autumn. The leaves are grass-like, and the plant grows about 6in. or so high. It prefers to be grown in partial shade, and in a compost of equal parts peat and leaf-mould. Plant in spring. Increased by division of the tubers before new growth begins.

Calypso.—The only species, C. borealis, is an orchidaceous plant, a native of N. America, and growing about a foot high. In summer it bears solitary flowers, the sepals and petals of which are rosy-purple, and the lip white blotched with brown. It requires the same cultural conditions as Calopogon, which see.

Cypripedium (Lady's Slipper).—A handsome and very interesting genus of hardy orchids, familiarly known as Lady's Slippers. One species (C. calceolus) used to grow wild in Yorkshire. The Cypripediums have quaintly formed flowers, the lower part of which consists of a pouch or bag formed in such a way as to suggest a lady's slipper. The various species are as follows: C. acaule, 6 to 9in.; flowers deep rose or purplish, summer. A native of N. America. Grow in peat and leaf-mould in a shady position. C. arietinum, native of N. America, grows 6in. high, and bears small reddish flowers veined with white in May. Requires to be grown in peat,

leaf-mould and sand in a moist shady position. C. Calceolus is a native of N. Europe, including England, grows 12 to 18in. high, and has reddish-brown or maroon sepals and petals, and a yellow pouch. Flowers in June. Grow in rich fibrous loam and leaf-mould where it can only get the early morning sun. Plant the roots 6in. deep. C. candidum comes from N. America, has solitary flowers, green and brown sepals and petals, and a white, purple spotted pouch. Flowers in June. Grow in peat in a moist position. C. guttatum is a Canadian and N. European species, growing oin. high, and with white flowers blotched with crimson. Blooms in summer. Grow in leaf-mould in a moist shaded position. C. japonicum is a native of Japan. It bears large flowers, the sepals and petals of which are green spotted with crimson; pouch large, white and marbled with pink; June. Grow in sandy loam in partial shade. C. macranthum comes from Siberia and is a handsome species. It grows about a foot high, bears purplish-rose flowers in June, but is not an easy species to grow. Grow in loam in the fissures of a partially shady rockery. C. parviflorum has stems a foot high, purplish-brown sepals and petals, and a yellow pouch dotted with crimson. The flowers are fragrant and borne in summer. Native of N. America. Grow in sandy loam and leaf-mould, and a moist, shady position. C. pubescens is also a N. American species of much taller growth than the preceding kinds. It grows 2ft. high, has vellowish-brown sepals and petals, and a yellow pouch. Blooms in June. Grow in loam and leaf-mould in partial shade. C. spectabile (Moccasin flower) is the handsomest of the genus. It has stems 2 to 3ft. high, white sepals and petals, and a rose-coloured pouch. Grow in peat in a moist, partially shady spot. Plant in March or April. Increased by division in spring.

Epipactis.—A genus of native orchids well worthy of culture by those who are fond of growing curious plants. The only species are, E. latifolia, greenish-purple, July, 1 to 2ft.; and E. palustris, white and crimson, July, 1ft. The former grows naturally in shady woods and the latter in moist and marshy places. We have strong plants of E. latifolia growing in ordinary soil between dwarf shrubs on a shady border, and others may grow the plant in a similar position. E. palustris should be grown in peaty soil in the bog garden or near water where the soil is uniformly moist. Purchased roots should be planted in spring, but wild plants may be lifted with a good ball of soil when found in flower, and replanted as soon as possible.

Goodyera (Rattlesnake Orchid) .- G. pubescens, the only

hardy species, is a pretty little orchid, a native of N. America, which may be grown outdoors in mild districts. It grows about 3in. high, bears white flowers in summer, and has green leaves delicately veined with silver. It may be grown in peat and leaf-mould under the shade of evergreen shrubs, or on a shady rockery. Plant in spring. Increased by division in spring.

Habenaria (Rein Orchis; Butterfly Orchid).—A genus of pretty native and N. American orchids. H. bifolia is a native of British woods and pastures, grows 1ft. high, and bears white fragrant flowers on leaf stems in June and July. A most interesting plant and one that will grow on a raised border under the shade of trees, even in a suburban garden. Plenty of leaf-mould should be mixed with the soil. The N. American species are: H. blephariglottis, white-flowered; H. ciliaris, yellow or orange; and H. fimbriata, purple, 2ft. Both the latter have fringed lips and flower in summer. The N. American species require to be grown in moist peat and leaf-mould in a shady spot. Plant the tubers 4 to 6in. deep in October or April. In dry seasons mulch the bed heavily with leaf-mould or well-rotted manure, and see the soil is kept moist. Increased by division in April.

Ophrys (Bee, Fly, and Spider Orchid).—Hardy plants, belonging to the Orchid family (Orchidaceæ), and very interesting subjects to grow by those who love curious plants. The Bee Orchid (O. apifera) is a British species, which grows freely on chalky soils in Kent, Sussex and Surrey. It bears curious velvety brown-purple flowers spotted with yellow, on stems 8 to 12 in. high in June. Another interesting native species is the Spider Orchid (O. aranifera), which bears flowers with a broad, brown lip, spotted with yellow. The Fly Orchid (O. muscifera), again, is a curious plant. It has a three-lobed lip of a brownish-purple colour, with a blue patch and a yellow edge. The Sawfly Orchid (O. tenthredinifera) is a European species, with greenish-trown sepals and petals and a yellow lip; height oin. In each case the shape of the flower is similar to the insect after which it takes its name. To grow these orchids well a special bed should be prepared for them. The bed should be a foot deep at least, and be composed of two parts of good turfy loam and one part of equal portions of broken chalk and leaf-mould. In this plant the roots 2in. deep, and then cover the surface with one of the dwarf Menthas so as to keep the soil protected from hot sun. The best time to plant collected wild orchids is after flowering, and when the leaves begin to fade. Purchased plants in pots may be put out in spring. We grow the Bee Orchid successfully in a grassy nook at the foot of a rockery. Increased by division after flowering.

Orchis.—A genus of hardy orchidaceous plants of considerable beauty and interest, and well worth growing for their pretty and quaintly marked and shaped flowers. They should be in a bed composed of a compost of two parts loam and one part of equal proportions of leaf-mould and decayed Plants procured in pots may be planted in spring, but those to be lifted from the pastures should be planted when the foliage has nearly decayed, about September. As the tubers are generally fairly deep, take care to get well below them and to lift a ball of earth with them. Never lift wild orchids in flower, as such plants rarely thrive. Give an annual mulching of rotten manure in autumn. A sheltered. sunny corner is the best position for the bed. The chief kinds are: O. foliosa, a native of Madeira, growing 3ft. hig., and bearing purple or lilac flowers in July; O. latifolia, a native species, with purple flowers borne in May, height ift.; O. laxiflora, a European species, growing 1 to 3ft. high, and bearing reddish-purple flowers in May; O. maculata, a British species, with spoted leaves, pale purple or white, and much spotted flowers borne in June, height ift.; O. pyramidalis, a native species, with rosy flowers borne in compact spikes in June; O. spectabilis, a N. American species, bearing pinkish-purple flowers in May; O. purpurea, green, purple and rose, May; and O. sambucina, yellow or purple, April, Europe. spectabilis will succeed better in a moist, shady position in peat and leaf-mould. Increased by division in September.

Serapis.—Hardy terrestrial orchids from the Mediterranean region, belonging to the Nat. Ord. Orchidaceæ. They have very curious and interesting flowers, and are well worth growing in a collection of hardy orchids by those who appreciate these plants. The two species worthy of culture are S. cordigera and S. lingua. The former has narrow mottled leaves, lilac sepals, streaked red, and a purple-brown lip. The spike is six-flowered and grows about a foot high. The latter has green leaves, a crimson lip, and brownish-purple sepals. Both bloom in May. Grow in a well-drained bed of loam, peat, and leaf-mould in a sheltered, shady position. Plant in spring. In winter cover with a handlight or small frame to prevent the soil being made too damp. Increased by division.

HARDY WATER PLANTS.

Acorus (Sweet Flag).—A genus of hardy perennials, belonging to the Arum family (Aroideæ), adapted for culture on the banks of lakes and streams or in shallow ponds. The plants have sword or grass-like leaves and yellowish arumlike flowers. There are two species in cultivation. One, the Sweet Sedge (A. Calamus), is indigenous in the eastern counties, and may occasionally be found wild in Ireland. This has peculiarly scented foliage. The other species, the Grass-leaved Sweet Sedge (A. gramineus), has narrower leaves than the former. There is a pretty silvery-leaved variety of this, named variegatus, which is well worthy of culture. Plant in autumn or spring, and increase by division of the plants in March.

Alisma (Water Plantain).—Pretty water plants, belonging to the Nat. Ord. Alismaceæ, and well adapted for growing on the margins of ponds and in water-courses. All are of very easy culture. A. Plantago is a handsome species, with tall elegant panicles of pink blossoms. A. lanceolata is a variety of the latter with narrower leaves and white flowers. A. ranunculoides bears large white blossoms which float on the surface of the water, and A. natans is a small species which floats on the water. All do best in shallow water not more than a foot deep. Plant in summer. Increased by division or by seeds sown in a pot of good soil submerged in the water. A ranunculoides properly belongs to the genus Echinodorus, and A. natans to that of Elisma. Both, however, are best known under the present generic name.

Aponogeton (Cape Pond-flower or Water Hawthorn).—A half-hardy water perennial, belonging to the Nat. Ord. Naiadaceæ, and a native of the Cape of Good Hope. Its leaves float on the surface of the water, and its flowers, which are borne freely, are white, with black anthers, and possessing a hawthorn-like scent. Flowers in summer. It can only be grown successfully outdoors in the south of England or in other sheltered spots. When grown outdoors plant in water 2ft. deep in April. In cold districts grow in a tank or tub in a cold house.

Butomus (Flowering Rush).—A native waterside perennial of considerable beauty, and a member of the Water Plantain order (Alismaceæ). B. umbellatus, the only species

cultivated, has slender three-sided leaves from 3 to 4ft. long, and erect flower stems, bearing rosy-lilac blossoms in umbels or heads at the apices, in early summer. It is one of the prettiest of waterside plants, and should be grown on the muddy margins of ponds, lakes or water-courses. The greater the depth of, and the richer the mud, the finer will the plants grow. Plant in March or April. Increased by division of the creeping root-stocks, in spring; or by seed sown in sandy soil in pots or pans half sunk in the water in autumn or spring.

Calla (Bog Arum).—C. palustris is a hardy aquatic perennial, belonging to the Arum order (Aroideæ), and a native of N. America and N. Europe. It has cordate leaves, creeping stems, and flat white spathes. Height about 6in. A suitable plant for growing in masses on the fringe of a pond or rivulet where the water is shallow, or in moist muddy spots. It increases very rapidly, flowers in summer, and makes an interesting water plant. Plant in spring. Increased by division of the stems in spring.

Caltha (Marsh Marigold).—The Marsh Marigold (C. palustris) is a fairly common wild plant in damp spots. In early spring its golden-yellow blossoms are very attractive in rural districts. Being so common it is seldom cultivated. In ponds and water-courses it is, however, worth growing in masses for the sake of its bright blossoms. There are two double-flowered forms which should certainly be grown on the margins of ponds or lakes, also in damp spots in the garden. These are nana plena and monstrosa plena. Plant in early spring. Increased by division in the case of the double, and by seeds in that of the single kind. Buttercup order (Ranunculaceæ).

carex (Sedge).—A genus of Sedges, or grass-like perennials, natives of Britain, and belonging to the Sedge order (Cyperaceæ). They grow naturally in boggy swamps and by the margins of pools, etc., hence under cultivation are suitable for growing in damp places in the garden or on the fringe of ponds etc. Plant in autumn or spring. C. paniculata has three-sided stems and long narrow leaves. In summer the plants bear large panicles of brown flowers. C. pendula has broadish green leaves 2ft. long, and bears a brownish inflorescence in the form of drooping spikelets, on stems 3 to 6ft. high. They are very graceful plants. Increased by division of the root-stock in autumn or spring.

Cyperus (Galingale).—A native waterside plant, belonging to the Sedge order (Cyperaceæ). C. longus has stout

stems 3 to 4ft. high, furnished with graceful arching leaves and chestnut-coloured inflorescence. Is a suitable plant to grow on the margins of ponds or lakes. Plant in autumn or spring. Increased by division of the creeping root-stocks.

Equisetum (Horse-tail).—Very graceful and elegant native plants, which grow wild in damp spots or in woods. Nat. Ord. Equisetaceæ. There are two species worth growing in gardens, viz., E. maximum (Giant Horse-tail) and E. sylvaticum (Wood Horse-tail). Both are leafless herbs with hollow furrowed stems. They have two distinct forms of growth. The first or fruiting growths consist of simple stems with sheaths. These soon die and are followed by much stronger stems, with slender graceful branches arranged in whorls. E. maximum has such growths 3 to 5ft. high, and E. sylvaticum stems 1 to 2ft, high. The former should be grown in rich vegetable mould near waterfalls, or in the fernery, or other damp spot. E. sylvaticum may also be grown in moist shady corners in similar soil. E. Telmatei is a synonym of E. Increased by division of the creeping roots in March.

Hottonia (Water Violet).—The only species worthy of note here is II. palustris, a native water plant, belonging to the Primrose order (Primulaceæ). It has a mass of elegantly cut, fern-like foliage, which is usually submerged in the water, and beautiful lilac-tinted flowers borne in heads well above the water in May and June. An exceedingly pretty plant. It will grow in water 2ft. deep, or on the muddy margins of a pond just covered with water. Plant in spring. Increased by division of the plants in April.

Hydrocharis (Frog-bit). The only species is H. Morsus-ranæ, a native water plant, belonging to the Nat. Ord. Hydrocharidaceæ. It has kidney-shaped leaves which float on the water, and white flowers borne in summer. The plant is fairly common in ponds and the margins of streams. Plants should be procured and placed in shallow water in spring.

perennials, familiarly known as Rushes. They belong to a special order of their own, the Juncaceæ. The only two kinds worth growing are J. effusus aureo-striatus (Golden Candle Rush), with sturdy green shoots variegated with golden-yellow, and J. spiralis, with leaves twisted into corkscrew-like spirals. These two are valuable for planting on the margins of ponds and water-courses. Plant in autumn or spring. Increased by division in autumn.

Limnanthemum (Floating Heart).—L. nymphæoides is a native aquatic perennial, belonging to the Gentian order (Gentianaceæ), and with roundish or heart-shaped, purple spotted leaves and bright yellow flowers, fringed at the edges and borne in July. A pretty plant to grow in shallow ponds or lakes, where it can root freely in the mud and its leaves float on the surface of the water. Increased by division; also by seeds sown in the mud in spring.

Limnocharis.—A genus of hardy aquatic perennials, of which L. Humboldtii, a native of Buenos Ayres, is the only species cultivated. It belongs to the Water Plantain order (Alismaceæ), has roundish leaves which float on the surface of the water, tuberous root-stocks, and yellow flowers with golden stamens, borne in summer. This pretty plant will grow and blossom freely in shallow ponds or fountain basins. May also be grown in shallow tubs of water sunk in the ground. In cold districts the latter is the best way, then the tub and plants can be removed to a greenhouse for the winter. Increased by division in spring. Also known as Hydrocleis Commersonii.

Menyanthes (Buck or Bog Bean).—M. trifoliata is a British perennial, often met with growing wild on the margins of rivers, ponds, etc. It belongs to the Gentian family (Gentianaceæ), has creeping stems, trifoliate leaves, and white and pinkish fringed flowers borne in early summer. The flowers are fragrant. Although a wild plant it is worthy of cultivation in shallow pends, lakes, or water-courses. It is an easy plant to grow; it is only necessary in spring to plant portions of the creeping stems in mud on the margins of water to get them to root and flourish. Increased by division in spring.

Nymphæa (Water Lily).—The Nymphæas are hardy aquatic perennials of great beauty, belonging to their own special order, Nymphæaceæ. They may fitly be described as the Queen of Water Plants, so beautiful and so fascinating are the rich and varied colours of the many species and hybrids now in cultivation. The Common White Water Lily (N. alba) is a native of ponds and water-courses in Britain, a strong grower, bearing white flowers freely in summer, and well suited for large and deep ponds. N. candida is a Bohemian species with snow-white flowers; N. flava, an American species with canary-yellow flowers; N. odorata, another American species, with white and rose-tinted blossoms; N. pygmæa, a small Asiatic species with white flowers; N. sphærocarpa, a rosycarmine-flowered species; and N. tuberosa, a white-flowered species from the United States. These are all worth growing

in large ponds. There are several very pretty varieties of some of the foregoing species. For example, plenissima is a large double white form of N. alba; maxima, a large singleflowered, and minor, a small-flowered variety of it. Then, again, rosea or rubra, pink; sulphurea, sulphur; grandiflora, yellow; caroliniana, rosy-pink; alba candidissima, white; luciana, rose-pink; and superba, a large-flowered kind, are charming varieties of N. odorata, all worthy of cultivation. Helveola is a sulphur-vellow form of N. pygmæa; and rosea a pretty pink variety of N. tuberosa. Beautiful as the foregoing kinds are, they are far surpassed in the exquisite beauty of their colouring by the Marliac strain of Hybrid Water Lilies. A large mass of these rose, pink, carmine, vermilion-yellow and white-coloured lilies in a setting of green, bronze, and crimsontinted foliage is a ravishingly beautiful sight to behold. The best of this lovely strain are N. Marliaceæ albida, white, golden anthers; N. M. carnea, pink and white, golden anthers; N. M. chromatella, soft primrose suffused rose, golden anthers; N. M. flammea, rose and carmine; N. M. ignea, rose and orange-red; N. M. rosea, rose-pink, yellow anthers. The foregoing are sweetly scented, very free flowering, and have handsomely tinted foliage. Another lovely group of Hybrid Water Lilies is the Laydekeri. The best of these are N. L. lilacea, blushpink changing to rosy-crimson, a dainty kind for small ponds or sunk tubs; N. L. fulgens, crimson-magenta; N. L. lucida, vermilion with orange stamens; N. L. purpurata, rosy-crimson, orange-red stamens; and N. L. rosea, carmine. Then there are several other Hybrid Water Lilies of great beauty that we must not omit to mention. There are sanguinea, deep crimson, orange-red stamens; robinsoniana, violet-purple, shaded red; gloriosa, bright red, with white tips and red stamens; ellisiana, carmine-purple; andreana, red and yellow, orange stamens; blanda, white; and Aurora, flowers varying from rosy-yellow to deep red. Nearly all the species and hybrids mentioned possess a delightful vanilla or rose-like fragrance.

There is always a charm about plants growing in water, and about the Water Lilies especially. All owners of ponds or streams, lakes, etc., wish to grow them, and even those who can only lay claim to tubs or tanks of water try their hand at their culture. And all may succeed. They are gross feeders, and delight in a rich, heavy soil, mixed with about one-third its bulk of manure, freed from straw. For each plant a mound, with its apex from one to two feet below water level, should be made with soil of this nature, and in this the plant should be placed, burying the roots and allowing the crown to just peep through the top of the soil. This, of course, is only possible when the water can be drawn off or

dammed back sufficiently to allow the bottom to be reached; but where this cannot be done it is possible to plant the lilies in large wicker baskets filled with a similar rich soil, and to sink these baskets into the required positions. baskets, provided they are big enough to hold a few bushels of soil each, the plants make good progress, and by the time the wicker has rotted away the roots will have become a network that will hold the soil together. In ponds, etc., that can easily be emptied it is advisable to draw off the water each spring, and to give the plants a rich top-dressing of manure. on the surface of which a few stones may be thinly distributed, these helping to keep the dressing in position. Advantage should be taken of the opportunity given to thin out some of the weakest side growths, as the flowers and leaves will be finer for the relief thus obtained, but it is well to remember that all these operations should be completed in a few hours, and, if possible, on a dull, showery day. In planting, which should take place about the end of April or early in May, arrange the plants singly or in isolated groups far enough apart, say 20ft., to prevent them growing together.

Where no ponds are available, but a concreted tank or aquaria, the lilies should be potted in good-sized pots and sunk in the water in such a manner that the principal crown of the plant is about a foot thereunder; even more shallow water will do, especially when the kinds are of less vigorous growth, as, for instance, the small, sweet-scented Water Lily (Nymphæa odorata minor). A still more simple way is to get petroleum barrels, cut them in halves, extract most of the oil by burning them out, and, in order to preserve them longer, tar the outside; after this, fill up with water for a few days to make sure they do not leak, then sink them in the ground on a level, put good loam into them, leaving enough room for the water. Plant during April or May, and change the water every now and then, keeping it clean from weeds and dead leaves. During the winter cover the tubs with boards, and change the soil early in the spring each year. Care should be taken that the position of these tanks or tubs is in every

case sunny and sheltered.

Increased by seeds sown in pots of loam submerged in water in a warm greenhouse; also by division of the plants in

summer.

Myriophyllum.—M. proserpinacoides is a graceful, rapid-growing aquatic plant, with lovely green feathery foliage. It is a native of Brazil, and belongs to the Nat. Ord. Halo raginaceæ. A pretty plant to grow in shallow water where there is plenty of mud for the roots to revel in. Increased by division in spring.

X

Nuphar (Yellow Water Lily).—Hardy aquatic perennials, belonging to the Water Lily order (Nymphæaceæ). N. luteum is the native Water Lily often met with growing in ponds and water-courses. It bears yellow fragrant flowers in July and August. N. pumilum is a small native kind met with in Highland lakes. N. advena is a N. American species with yellow flowers and red stamens. These lilies require to be grown under similar conditions to the Nymphæas, which see.

Orontium (Golden Club).—The only species is O. aquaticum, a N. American hardy aquatic perennial, belonging to the Arum Lily order (Aroideæ). It grows a foot or so high, and bears yellow flowers on a club-like spadix or stem in May and June. The leaves float on the surface of the water. This interesting plant is suitable for growing on the muddy margins of ponds where the water is shallow, or in moist bogs. The best time to plant is April. Increased by division of the rhizomes in spring.

Parnassia (Grass of Parnassus).—P. palustris is a native bog plant, growing 6in. high, and bearing a profusion of pretty white flowers in summer. It belongs to the Saxifrage family (Saxifragaceæ). An interesting genus to grow in moist shady positions, as in the bog garden or on the margin of water. In any case a peaty soil is essential. Plant in spring. Increased by seeds sown in spring where required to grow, or by division in autumn or spring.

Peltandra (Arrow Arum).—P. virginica is a North American marsh plant, belonging to the Arum family (Aroideæ), suitable for growing on the margins of ponds or lakes. Its chief attraction is its arrow-shaped and prettily netted leaves. It grows 2 to 3ft. high. Plant the creeping root-stocks in the mud at the margin of the water in spring. Increased by division in spring.

Pontederia (Pickerel Weed).—P. cordata is a North American aquatic perennial with elegant foliage, growing 1 to 3ft. high, and bearing sky-blue flowers in dense racemes during the summer. It is a very handsome and graceful plant and should be grown in every collection of water plants. This plant will succeed on the muddy margins of lakes or ponds in shallow water about a foot deep. Plant in spring. Increased by division in April. Nat. Ord. Pontederiaceæ.

Richardia (Arum Lily).—R. africana (Syn. A. africana) is better known as a greenhouse than a hardy plant. It is, however, hardy enough to grow outdoors in the South of England, and on that account must have a place in this



AN EXAMPLE OF SIMPLE EFFECTIVE BEDDING,

A bed edged with Lobelia and the centre filled with a mass of Zonal Pelargoniums of one colour,

AN EXAMPLE OF SPRING BEDDING.

work. The plant is too well known to need description here. Suffice it to say it will thrive in shallow ponds in sheltered positions, and flower freely every year. The tuberous rootstocks should be planted in mud about a foot below the surface of the water. Plant in spring. Increased by division of the root-stocks in March. The variety Little Gem is equally suited for outdoor culture. The species is a native of N. Africa and a member of the Nat. Ord. Aroideæ.

Sagittaria (Arrowhead).—A genus of hardy aquatic perennials, belonging to the Water Plantain order (Alismaceæ). S. sagittitolia is a native species, with arrow-like leaves on long stalks, and white flowers with purplish anthers borne in whorls on scapes 18in. to 2ft. high in summer. S. sagittifolia flore pleno has double blossoms. S. variabilis is a N. American species with white flowers and golden anthers. There is also a double form of it. There are other species, but not so good as the preceding ones. These do well in shallow water about a foot deep. Plant the roots in the mud in April. Increased by seeds sown in April in sandy soil in pots partly submerged in the water; also by division in April.

Scirpus (Bulrush).—The Native Bulrush (S. lacustris) is a native plant often met with growing in shallow water. It grows 4 to 5ft. high, and bears reddish-brown inflorescence in July and August. S. Tabernæmontana zebrinus is a variety of the above, the stems of which are ringed with yellow. It is known as the Variegated Porcupine Rush. Both are suitable for growing on the margins of shallow water. Plant in spring. Increased by division. Sedge order (Cyperaceæ).

Stratiotes (Water Soldier).—The only species is S. aloides, a native of the ponds and ditches of Britain, and a very interesting hardy aquatic to grow on the margins of shallow ponds or water-courses. It has long green leaves armed with spiny teeth on the margins, and bears yellowish, white and greenish flowers on spikes in summer. Plant in the mud in April. Increased by division in spring. Nat. Ord. Hydrocharidaceæ.

Thalia.—T. dealbata, a native of Southern Califonia, is a hardy aquatic perennial of considerable beauty, growing 4 to 5ft. high, and bearing blue and purple flowers in elegant panicles during the summer. A very beautiful plant to grow in bold masses along the muddy margins of shallow water-courses. It likes a warm, sheltered position. The root-stocks should be planted about a foot below the water. If the mud is shallow, and the subsoil clayey, dig out the clay to a width

of 3ft. and a depth of 2ft., and fill up with peat and loam. Plant in spring. Increased by division. Nat. Ord. Scitamiacæ.

Typha (Reed Mace).—Two species of this genus are cultivated on the margins of lakes and water-courses for the sake of their graceful glaucous leaves and dark purple spikes of flowers borne in late summer. They are T. latifolia, 3 to 6ft., and T. angustifolia, 4 to 5ft. The flower spikes of both species are highly prized for cutting and drying for outdoor decoration. Plant in the muddy margins of water in spring. Increased by division. Both are natives of Britain, and belong to the Nat. Ord. Typhaceæ.

HARDY FERNS AND MOSSES.

Adiantum (Maidenhair).—The Maidenhair Ferns are well known, but though the species are so numerous, only one can be recommended as quite hardy and suitable for the outdoor fernery. This is the American Maidenhair (Adiantum pedatum). It is, however, a very distinct and strong-growing fern, its fronds ranging from 12 to 30in. in length. They are bird'sfoot shaped, that is, the main stem divides into two divisions which bend round in scroll-like form and give off on the upper side other long divisions bearing the oblong pinnæ on either side of their length. The divisions range from five to ten or twelve, resulting in magnificent fan-like fronds. is deciduous and quite hardy, though it is advisable to apply a good covering of leaves, etc., in November to protect the roots, which lie near the surface, from severe frost, and thrives in a mixture of loam and leaf-mould in equal parts. Our native Maidenhair (A. Capillus-Veneris) is too tender for outdoor culture, except in very sheltered and warm localities, severe frosts always killing it, while slight ones damage its otherwise evergreen fronds. If its culture be attempted outdoors, it should be grown in a moist, shady position at the foot of a wall or in some sheltered nook. A compost of peat, leaf-mould and loam will suit its requirements best.

Aspidium (Buckler or Shield Ferns).—A genus of strong-growing ferns of a shuttle-cock habit of growth, easily managed, and thriving in ordinary soil and situations, and

embracing some of our commonest ferns, so useful for the more exposed parts of the fernery and for filling up odd, shady corners where choicer varieties would not be trusted. They have the advantage of being evergreen, though in town gardens this is often not very apparent. One of our native aspidiums has sported amazingly and yielded some most lovely varieties, rivalling in beauty the best things the exotics can produce. These should be placed in positions where their beauty can be developed and seen to the best advantage. North America and Japan have also favoured us with one or two good things, some closely following in form our native species. For the better varieties a mixture in equal parts of loam, leaf-mould, peat and sand should be provided. Propagation is effected by spore sowing, by division of the crowns in early spring, and, where produced, by plantlets formed on the lower part of the midribs of the older fronds. A prominent feature in these ferns is their wealth of rich brown chaffy scales clothing the midrib on its under surface. Aspidium [Polystichum] acrostichoides is a distinct North American species, in which the upper fertile portion of the fronds is contracted; it is about 18in. in height. It has yielded a handsome crested variety known as A. a. grandiceps. A. [P.] aculeatum is our British Prickly Shield fern, with handsome, pleasingly divided fronds. the divisions ending in little hair-like spines. Height about 2ft. It has vielded but few varieties. A. [P.] angulare, the Soft Prickly Shield fern, similar in form, has, however, vielded many and magnificent variations, the cream of which are plumosum, with broad, handsome, many times divided fronds; proliferum Crawfordianum, bulbil-bearing; tripinnatum elegans, moss-like in its divisions; Bayliæ, dark fronds; cristatum gracile Jonesi, crested; cristatum Barnesi, also crested; divisilobum plumosum, very finely divided; grandiceps, beautifully crested. Kinds more curious than beautiful also abound, as cornutum, horned; lineare, narrow and depauperated. [Cyrtomium] falcatum is a Japanese kind, with once-divided fronds and broad, pointed divisions; a still broader form is caryotideum; a narrower and perhaps more elegant kind is Fortunci; pendulum is of drooping habit. Though normally evergreen, these ferns lose their fronds outdoors in England, and are all the better for a covering of litter or bracken to protect in very severe weather. A. [P.] Lonchitis is our native Holly fern, and is a mountain form of difficult culture, needing perfect drainage, and at the same time to be constantly moist: it has once-divided, stiff, leathery, dark-green fronds. [P.] munitum is the North American counterpart of A. Lonchitis, but taller, stronger, and of easier culture; height about 2ft. A. [P] setosum is the Japanese counterpart of A. angulare; it is of a darker green, more polished surface, and the divisions of the fronds are set closer together, even to the point of overlapping; it is very bristly and very scaly. Outdoors it needs protection in winter.

Asplenium (Spleen-wort; Lady-fern).—A large genus of ferns, containing numerous British species and one or two hardy exotics. They are for the most part dwarf or of medium height, and several of the dwarfest should be accorded a front place in the fern-rockery. The majority, too, are evergreen. A. Adiantum-nigrum (Black Maidenhair Spleenwort) has glossy green triangular fronds of leathery texture, much valued for cutting. They average 8in. in height and 5in. wide. There are numerous varieties, the best being acutum, more pointed fronds; grandiceps, crested; variegatum, variegated. A. angustifolium, a deciduous North American plant, reaches a height of 2ft.; fronds narrow, 4 to 6in. A. Ceterach (Scaly Spleenwort) is better known as Ceterach officinarum. It is a native evergreen, with densely scaly fronds, 4 to 6in. long, and of leather texture. A good wall fern, also drought resister; even when apparently dead it will revive on application of moisture. Likes limestone in its soil. A. ebeneum is a largergrowing N. American fern, otherwise closely resembling our native A. trichomanes. Fronds a foot high with black midrib. A. Filix-femina, otherwise known as Athyrium Filix-femina, is the Lady fern, and one of the most elegant of our native ferns. Fronds from 1 to 3ft, high by 6 to 12in, broad, finely divided and plume-like. It likes a good loamy soil with plenty of moisture at the roots, and as little direct sunshine as possible; it favours the waterside and where the dew lies long. Propagated by division and by spores. There are innumerable varieties, some of the best being acrocladon, branched and crested; americanum, same as type but with pink midrib; apicale, dwarf and crested; corymbiferum, tall, arching and heavily crested; Elworthii, broad and crested; Frizelliæ (Tatting Fern), very narrow fronds; F. cristatum, crested; plumosum, large and finely divided; p. multifidum, the same crested; setigerum, finely divided and bristly; Vernoniæ cristatum, wavy and crested; Victoriæ, a crested form, in which the pinnæ are divided to one midrib, and one part projects upwards and the other half downwards, resulting in a lattice-like effect. A. fontanum is a very pretty dwarf European fern; fronds 3 to 6in. long by 12in. broad, finely cut; requires a sheltered position and a compost of sandy peat, broken brick and mortar rubbish. A. (Athyrium) goringianum pictum is one of the few variegated It is a deciduous Japanese plant, about a foot high; the divided fronds have a claret-coloured midrib. a grey band on either side, and the rest green. Requires a sheltered position and a compost of two parts leaf-mould and one of fibrous loam and silver sand. A. Trichomanes is the Maidenhair Spleenwort, a pretty dwarf evergreen native species, with fronds 4 to 6in. long and ½ to ¾in. broad; the midrib is dark chestnut and the little oval divisions dark green. A. viride (Green Spleenwort) is a similar plant, but a lighter green throughout. These like a light airy position and a compost of loam, broken sandstone, or brick and lime rubbish. A. thelypterioides is a deciduous N. American fern, 18in. high, dull green and downy. A. Ruta-muraria (Rue-leaved Spleenwort) is a tiny plant, making itself at home in old walls and on rockwork if given a mortary soil.

Botrychium (Moonwort).—Curious ferns, producing one stem from an underground bud, this bears two divisions, one leafy and barren, the other fertile and spike-like, resembling a cluster of flower buds. They require sandy loam, and are most at home amongst grass and other field herbage. Our native kind, B. lunaria, and a United States species, B. virginicum, represent the hardy kinds.

Cryptogramme (Parsley Fern or Rock Brake).—This is a genus of but one species, and that a native fern variously known as the Mountain Parsley fern, Rock Brake, and Parsley fern (Cryptogramme crispa). It is probably much better known by its older botanical name of Allosorus crispus. a mountain fern affecting stony districts in the mountainous parts of England, Scotland and Ireland. It is of tufted habit, not a little resembling a poor type of parsley. It is deciduous; the spring fronds are barren, the second and later crop are fertile and distinct in appearance to the former, and are useful for cutting. In height it averages from 2 to 4in., or if very strong, 6in. It likes a cool, moist, but well-drained situation, and a compost of loam and peat in equal parts with a plentiful supply of broken brick or stone added. It has a strong antipathy to lime either in the soil or water. Propagate by division in spring when signs of growth are first apparent. This species is a very invariable fern, the only variety of note being the geographical one of C. c. acrostichoides from N. America. This is a larger, bolder and stronger plant than the type.

Cystopteris (Bladder Fern).—Pretty dwarf ferns with finely divided fronds of easy culture. A compost of fibrous peat, loam and leaf-mould suits them. They are deciduous; propagated by spores and bulbils. C. bulbifera is a N. American kind, 9 to 12in. high, remarkable for bearing large bulbils on the upper surface of its fronds. C. fragilis is a native plant of free growth. Height 4 to 8in.; grows in summer shade; in the former it takes on a reddish colour. Dickieana

is a dense dwarf variety. C. montana has triangular fronds produced from underground rhizomes. It needs a sheltered, moist, sunless spot, perfectly drained with broken brick, etc., and a compost of very fibrous peat, with a little loam and silver sand. Snails and slugs are fond of it. It must always be kept moist.

Dicksonia (Dennstædtia) Punctilobula.—A North American deciduous fern, having a creeping underground rhizome, which produces abundantly erect, twice divided fronds 18 to 24in. high and 6 to 7in. wide, soft in texture. It thrives in loam, leaf-mould, peat and sand in equal quantities. The fronds are fragrant.

Hypolepis anthriscifolia.—A slender creeping fern, with very finely-divided lace-like fronds, 6 to 7in. long and about 3in. broad. Needs absolute shade from sun and to be grown in rough peat with plenty of stones added. It thrives and looks best on the edge of a rock or amongst a pile of large stones, over which it will creep. Protection in severe weather is advisable. Propagate by division of creeping stem.

Lomaria.—Lomaria alpina is a pretty miniature fern from New Zealand, having pinnate evergreen fronds, only about 4in. long. It has a creeping rhizome, and should be planted where it will not be overgrown. Peat and sand suits it. L. Chilensis grows one to two feet high, and is not unlike a vigorous examples of our native L. Spicant. Dark evergreen fronds. Treat as the foregoing. L. Spicant, our native Hard Fern, is better known as Blechnum Spicant, or B. boreale. It is easily grown, thriving even in stiff, clayer soil, with little or no shade; it is therefore useful for the more exposed parts of the fernery. Barren fronds, dark green, once divided and low; fertile fronds tall, erect, and with slender divisions reaching anything up to a foot in height. There are several varieties, the chief being Aitkeneanum, crested; Maunderii, dense and dwarf; plumose, serrated and much divided; trincovocoronans, fronds divided into three at the base, and the apices again divided into a crest.

Lycopodium (Club Moss).—The Club Mosses are selaginella-like plants, several of which grow in the Scotch and other mountainous heaths and pastures. They are not easy to establish, however, resenting removal and having but few roots. The best native kinds are L. alpinum, L. annotinum, L. clavatum (Common Club Moss), and L. selago (Fir Club Moss). More showy than these is the North American L. dendroideum, called there the "Ground Pine" from its resembling a miniature fir tree. It has erect and much branched stems, 6 to 9in, tall, beset with small, shining,

green, scale-like leaves. The fertile branches bear yellow spikes of spore cases. This likes a moist peaty soil in a warm sunny position on the rockery. Dryness at the root must be carefully guarded against.

Nephrodium (Male and Buckler Ferns).-Also known as Lastrea. This genus contains some of our commonest and best known hardy ferns, of which the Male fern is often to town dwellers the type of all ferns, and to such known by the name of "Basket fern," from its being so commonly hawked around in the spring. The bulk of Nephrodiums are easily grown and do not mind a moderate exposure to sunlight, and are excellent for the rougher and more exposed parts of the rockery or fernery. A compost of equal parts loam, leaf-mould, peat and sand suits them well, and plenty of water at the root is also required. The majority are evergreen, though in town gardens the fronds are apt to die down, or at least become brown, seared and shabby. Propagation is effected by division in spring and by spores. Nephrodium æmulum is the Hayscented Buckler fern, having such a fragrance when the fronds are rubbed between the finger and thumb, especially when dried. Easily grown in sun or shade, evergreen, with broad crispy fronds having the edges of the divisions curled under, hence its old names of N. concavum and N. recurva. Cristata is a crested variety. N. atrata, an evergreen Himalayan fern. having upright, twice-divided fronds some 2ft. high and Sin. broad, disposed evenly round the crown, and of a dark green colour. In winter the fronds fall outwards. There is a variegated variety with yellow streaky variegation—A, variegata. Also known as N. hirtipes. N. decurrens is a deciduous Chinese species with bipinnate fronds winged along the midrib; pale green in colour and about a foot high. N. dilatatum, the Broad Buckler fern, is a variable British species, with broad, dark-green, multiple-divided fronds, with dark scales plentifully clothing the bases of the stalks; likes plenty of root room, good soil and moisture. Crispato cristata is a wavvfronded crested variety; foliosa digitata is a leafy variety; grandiceps is heavily crested; lepidota is dwarf. N. Filix-mas, the Male fern, is another well-known British plant. There are three types of it, namely, Filix-mas, with broad, pale green fronds; propinqua, smaller pale or dull green and concave fronds; pseudo-mas, bright green, and plentifully clothed with golden-brown scales, this is also more evergreen than the two preceding. Each will grow with ease, form large pleasingshaped plants, and is thoroughly hardy. Easily increased from spores. Of varieties, F.-m. Barnesii is a taller kind; F.-m. fluctuosa is wavy; F.-m. grandiceps, heavily crested; F.-m. pumila, dwarf. Propinqua cristata and grandicens, both crested. Pseudo-mas crispa, very dense and crispy; p.-m. cristata, crested; p.-m. cristata angustate, a slender counterpart of former; cristata fimbriata, a handsome graceful variety; p.-m. polydactyla, crested; p.-m. ramosissima, branched and crested. N. fragrans (Violet-scented Fern) is a North American species, 6 to gin. high, with twice-divided fronds 2in. broad. When watered overhead or rubbed in the hand the fronds emit a fragrance resembling that of violets. A good rockery species. N. Goldianum is a pretty N. American kind, grows 2 to 3ft. high on long stalks, twice divided, and of a peculiar dark metallic green in two shades. N. marginale is another N. American fern, with twice-divided fronds some 18in, long and dark green; very hardy. N. montanum (Lemon-scented Fern) is a British deciduous species, with 18in, pale green fronds, twice divided, and faintly odorous of lemon if rubbed in the hands. M. cristata is a crested form; congesta is dwarf and crowded; ramo-coronans is branched and crested. N. opacum is a Japanese kind, a foot or so high, with much divided fronds, dark green, and with prominent black sori; stalks black scaly. Requires the protection of litter in winter; evergreen normally. N. prolificum, a little Japanese fern, 6in. high, with three times divided fronds; produces buds in the axils of the leaflets, by which means it is easily propagated. Sori red is the better for winter protection. N. Sieboldi, a bold fronded, evergreen Japanese fern, 1 to 2ft. high, once divided into large pinnæ, 6in. by 1in. Variegata is a variegated form. This also should be protected. N. thelypteris (Marsh Fern) is a British species with tall slender fronds produced from a widely-creeping rhizome; fertile fronds narrower than the barren, and deciduous. It must grow by the margin of water, or else have a large pan sunk in the ground which will catch and retain the copious supplies of water, which must otherwise be administered. N. noveboracensis, a deciduous N. American fern, somewhat similar in shape and habit to the foregoing.

Onoclea (Ostrich Feather and Sensitive Ferns).—A genus containing two very distinct species. The first—O. germanica—is better known as Struthiopteris germanica, and popularly as the Ostrich Feather fern. It is a handsome plant and very shapely. The shape of the fronds and the habit remind one of our native Male fern, but the former are stiffer, more erect and regular in their sequence, forming a huge funnel 4ft. deep. From the centre rise the fertile fronds as a second or late summer crop; they are erect, of the same general outline, but shorter and much contracted. This species is quite hardy, needs an abundance of moisture summer and winter, is deciduous, and thrives in a good loamy soil with a little leaf-mould added. From its height it is suited for the back of the fernery,

but its distinct habit demands it shall not be crowded. Propagate by spores or division. The second species is the Sensitive fern of North America-O. sensibilis. It has obtained its common name from the rapidity with which its fronds shrivel when cut. These fronds are of two very distinct types. barren, first produced, are broadly triangular in general outline, deeply and irregularly cut into finger-like segments; the texture is thin and papery, and the colour a soft pleasing green. Though the roots are hardy the fronds are very sensitive to frost, and late spring or early autumn "snaps" shrivel them. A sheltered position is therefore advisable. The barren fronds are sparingly produced, and are reduced to a spike bearing what look like so many round balls or buds. These fronds are more permanent, and last till the following season. Both are produced along a thick creeping rhizome, the division of which forms an easy mode of increase. The fronds average about 2ft. in height, half of which is stalk. Remarks as to soil and moisture above are applicable here.

Ophioglossum vulgatum (Adder's Tongue Fern).— This is similar to the botrychium, but has a flat, broad green leaf and a simple spike. It is a native found in damp meadows. The treatment recommended for botrychium is applicable here.

Osmunda (Royal Fern).—The Osmundas are marsh ferns, requiring boggy soil on the margin of a pool or stream, though they can be made to flourish without these, providing copious supplies of water are given all the year round in dry weather. O. regalis, our native kind, grows 3ft. high, with broad bi-pinnate fronds, the apices of which are contracted into fertile spikes. O. r. cristata is a crested form of dwarfer habit. The following are North American species. O. cinnamomea, 21ft. high; pinnate barren fronds; fertile, distinct, narrow, slender, upright, and grow in the centre, and being taller give a fountain-like appearance. O. Claytoniana, pinnate fronds of a lovely green colour, the fertile ones have some segments fertile, the others foliated; 21ft. high. A handsome plant. O. gracilis is a slenderer form of O. regalis; height, 21ft. Propagation is effected by sowing the spores, which are freely produced. All those named are deciduous.

Polypodium (Polypody).—Mostly easily grown ferns, and the type—P. vulgare—is easily accommodated, and also distinct in appearance. P. alpestre (Mountain Polypody) much resembles a small Lady fern in shape and general appearances, is deciduous and very hardy. Flexile is a broader, less divided and more flaccid variety. P. Dryopteris Oak Fern) is another native kind, with triangular, three times cut fronds on long wiry stalks, produced from a creeping rhizome. Colour a fresh

bright green. Likes plenty of moisture and a compost of two parts fibrous peat, one part leaf-mould, and plenty of sand or broken sandstone. The rhizomes should not be deeply buried. Makes a good edging for the fernery. P. robertianum (Limestone Polypody) is a somewhat similar but slightly larger plant. P. Phegopteris (Beech Fern) is another British fern, deciduous, with triangular, twice divided fronds, having the lowest pair of pinnæ depressed. The texture is soft and downy. They are produced on a creeping stem, and it needs similar culture to the Oak fern. P. hexagonoptera is a N. American representative of this species, being similar in appearance but larger, 12 to 15in. by 6 to Sin. broad. The former is not more than half this size. P. vulgare (Common Polypody) is a native evergreen once-divided fern, the fronds being produced on a stout creeping rhizome, which may or may not be just buried. It grows wild in the forks of tree branches, on old walls and roofs and mossy banks. Easily grown in light open soil with plenty of leaf-mould. There are numerous varieties, of which the following are the most distinct: Cambricum (Welsh Polypody), a pretty, barren, green kind with overlapping pinnæ, the edges of which are irregularly jagged or lacerated; omnilacerum is similar, but the lobes do not overlap, and the tip of each pinna is clongated; semilacerum (Irish Polypody), deeply twice divided in the lower part of fronds, once but toothed above: auritum has the pinnæ eared; bifidum has the pinnæ forked at the tip; cristatum, crested; multifido-cristatum, much crested; trichomanes, several times divided into slender segments, plumose; variegatum, spotted and striped pale vellow.

Pteris (Brake).—The common Brake or Bracken (P. aquilina) is too common and strong-growing a fern for the fernery unless to fill up inaccessible corners or positions exposed to sun or wind, or otherwise rendered undesirable situations for better ferns. It does well as a woodland fern. There is a crested variety which is worthy a place in the general collection known as P. a. cristata; and another, P. a. depauperata grandiceps pendens, with depauperated or cripplied-looking fronds, which terminate in slender, tassel-like crests, the weight of which causes a drooping habit.

Scolopendrium (Hart's Tongue Fern).—The common Hart's Tongue fern (Scolopendrium vulgare) is one of the best known, as well as one of the most distinct ferns. Its fronds are long and strap-shaped, pointed at the apex and eared at the base. Such is the type, but the variations on this are endless. It is an evergreen fern, capable practically of living anywhere. It will withstand a south sun, live in the chinks of old walls, by the margin of water, thrive in deep shadow and in.

almost any soil. To get the best results, however, it should be supplied with a compost of two parts leaf-mould or peat, one part loam, and one part silver sand; it also likes plenty of root moisture and a moderate amount of shade. Under such conditions its fronds will average 18in. by 3in. It is easily propagated by spores, by division, and by cuttings of the leafstalks. Grubs of weevils are very fond of this fern, and do much damage by boring into the stalks of the fronds producing withering and death. Varieties are legion, and would fill a large fernery by themselves; the following are amongst the best and most distinct: Crispum, long fronds with rettily frilled or waved margins, barren; c. fimbriatum crorper, a handsome form heavily frilled and fimbriated and sometimes crested; cristatum, crested; cristulatum, dwarf crested; cornutum, fronds ending in a little, horn-like projection; glomeratum, heavily crested; Kelwayi, dwarf, compact and crested; Keratoides, variously divided and crested; laceratum, broad lacerated fronds; marginatum, narrow fronds, with a marginal raised line on the under sides; ramo-cristatum, fronds branched and crested; r.-c. majus, a heavily-crested form; ramo-marginatum, branched fronds, serrated and crested; sagittato-cristatum, ears at base, frond developed, apex crested.

Selaginella.—A family of plants allied to ferns; they are either of creeping habit, rosette-like or tall and branching. The spores are of two kinds, and borne in catkins at the tips of the growths. Several are hardy in sheltered positions, though they are commonly grown in greenhouses. A mixture of peat-loam, leaf-mould and sand in equal parts will suit them. S. helvetica is the hardiest, and comes from the Alps. It can be used as an edging or for carpeting bare spaces. S. denticulata (helvetica vera) is another dwarf, creeping, fairly hardy kind; in exposed places the plant turns a red colour. Kraussiana is a common greenhouse kind, green and stronger growing than the above; there is a golden-leaved varietyaurea—and a white-tipped form—variegata. worth using for summer carpeting and edging effect, even if they fail to last the winter. S. involarens is a rosette kind, the growths all spreading out from a centre, that can be tried out of doors.

Woodsia.—A genus of dwarf ferns, 2 or 6in. high, native of British and N. American mountains. They do not need much soil, thriving best on or between damp rocks where they will have perfect drainage. Turfy peat, fibry loam, and plenty of finely-broken sandstone and charcoal and silver sand form a good compost. All are deciduous and have once to

twice divided fronds: W. alpina (hyperborea) is small and rare; W. ilvensis has woolly fronds; these are British, but rare. W. glabella, similar to alpina, but smoother; W. obtusa, the largest and strongest grower, 9 to 12in. high; W. oregana, small and rare; W. scopulina, also dwarf and rare, and by some considered a variety of W. obtusa.

Woodwardia (Chain Fern).—Large-growing ferns from N. America and Japan, which are hardy in sheltered ferneries with protection. W. areolata, with once-divided fronds, 9 to 12in. tall, on an underground creeping stem, is a swamp plant, and must be grown by the water's side. W. virginica, twice-divided fronds, 12 to 18in. long, and a creeping rhizome. Both of these are from N. America, and are deciduous. The following are Japanese, evergreen, and need protection. W. japonicum, twice divided, dark green. W. orientalis, similar to W. radicans, fronds more leathery and coloured when young. W. radicans, twice divided, 1 to 2ft. This and the foregoing are proliferous.

TENDER BORDER AND BEDDING PLANTS.

Abutilon (Indian Mallow).—Tender ornamental-leaved and flowering plants, belonging to the Mallow family (Malvaceæ), used mainly for summer bedding. They are hardly worthy of attention by owners of small gardens, as it is necessary to keep them during the winter in a heated greenhouse. Still, being beautiful plants, we must not omit them from this work in case our readers should desire to use them for summer garden decoration. The ornamental-leaved sorts produce a fine effect when associated with other foliage plants in beds. They will succeed in ordinary soil, and require to be planted out at the end of May or early part of June. In autumn the old plants should be lifted, potted and placed in heat for the winter. Early in the year prune them into shape and repot. Cuttings root readily in heat in early spring. Those remarkable for the rich colour of their leafage are: A. Thompsoni variegata, leaves mottled with yellow; A. sellovianum marmoratum, yellow and green foliage; A. megapotamicum, yellow and green, slender shoots, and well suited for pegging down as an edging to beds; Souvenir de Bonn, green and white; and Swaitzi, also green and white. Of the flowering kinds, mostly hybrids, Chrysotophanum compactum, yellow, dwarf; Brilliant, bright red, dwarf; and Royal Scarlet, scarlet, are very showy and pretty.

Agapanthus (African Lily).—This is better known as a greenhouse plant, but in the South and sheltered parts of the kingdom it is successfully grown outdoors in sunny borders or on rockeries. It is also frequently grown in pots under glass in the winter, and placed outdoors in summer whilst in flower. To grow it outdoors the soil must be a light loam and well drained. Plant out in May. In autumn surround the base of the shoots with a thick layer of rotten manure, and cover the plant in severe weather with dry bracken or litter. Many gardeners plant out in May, lift and store the roots in a frost green-house in October. Others, again, grow the plants in pots and plunge the latter in the soil in May, lifting and taking indoors in October. The typical species, A. umbellatus, has blue flowers. There are, however, numerous varieties, such as albidus, white-flowered; aureus, leaves variegated with creamy yellow; Leitchlinii, deep blue; maximus, bright blue; minor, a dwarf variety; variegatus, leaves variegated green and white, very pretty; atrocæruleus, dark violet; giganteus, dark blue; pallidus, pale porcelain blue; and sandersonianus, dark blue. The plants require an abundance of water in summer and occasional applications of liquid manure. Increase is effected by division of the roots in March. This genus belongs to the Lily family (Liliaceæ).

Agathæa (Blue Daisy).—A greenhouse perennial, belonging to the Daisy family (Compositæ), but often extensively grown for bed and border decoration in summer. The species (A. cælestis) bears sky-blue flowers of a marguerite shape, and grows about 12 to 15in. high. There is also a variety with golden leaves. Both are suitable for massing in beds or grouping in borders. To obtain a stock of plants for bedding insert cuttings in pots or boxes of light soil in a cold frame in July or August. Keep in the frame till October, then remove to a heated greenhouse till March, when pot off singly, keep in heat till May, harden off and plant out at the end of the month. Natives of South Africa.

Agave (American Aloe; Mexican Aloe).—A genus of fleshy-leaved spiny plants, belonging to the Amaryllis family (Amaryllidaceæ). They are grown for their grotesque or peculiar appearance only. The large species, A. americana, and its variegated variety, attain a large size, and are grown

in large pots or tubs, which are stood outdoors during the summer. The smaller species are often used as "dot" plants in carpet beds, or plunged in rockeries during the summer. We need not mention names here, since any of the numerous species are adapted for summer culture outdoors. Needless to say, the plants must be safely housed before frost sets in. Native of Mexico.

Ageratum (Floss Flower).—The only species of this genus worthy of mention in this book is A. mexicanum, a halfhardy annual, belonging to the Daisv family (Compositæ). Although strictly an annual it may be grown as a perennial by increasing the stock annually by cuttings. The species grows 2ft. high and bears lilac-blue flowers, which are most effective for border or bed decoration in summer. Still more useful and largely grown are its numerous dwarf varieties, which only attain a height of 6 to oin. These are specially adapted as edgings to beds or borders, and they blossom most profusely. There are white and blue varieties sold under various names, which will be found in the numerous seed lists. All may be reared from seed in heat in early spring, and the seedlings, after the process of hardening off, planted out at the end of May. Seedlings, however, vary a good deal in habit, and so, where plants of an even type are required, it is better to insert cuttings in late summer in pots or boxes in gentle heat, winter the rooted cuttings in a cool temperature, transfer them singly to small pots in March, harden off in April and plant out in May. Natives of Mexico.

Albizzia.—This genus of pea-flowered shrubs (Leguminosæ) only provides one species of any value for outdoor culture, and that is A. lophantha. It is used as an ornamental-leaved plant only. It has rather a straggly habit of growth, but the very finely cut foliage is very elegant, and on that account the plant looks well associated with other foliage plants in sub-tropical beds. It is easily reared from seed sown in heat in spring, the plants afterwards being grown on to the required size. By nipping out the point of the main shoot the plant may be made to assume a bushier habit. Requires greenhouse protection in winter. A native of Australia, and formerly known as Acacia lophantha.

Alonsoa (Mask Flower).—Half-hardy perennials, belonging to the Snapdragon family (Scrophulariaceæ). Grown outdoors in summer only. For this purpose the plants are usually treated as annuals, seeds being sown in heat in early spring, and the seedlings planted out in sunny borders at the end of May. All the species are very pretty and showy. A.



AN EXAMPLE OF WALL BEAUTIFICATION.

In this instance what would otherwise have been an ugly wall has been transformed into an object of beauty by fringing the doorway with Clematis montana and Clematis lanuginosa Lady Dorothy Nevill. See p. 33.



albiflora has white flowers; A. incisifolia and A. myrtifolia, scarlet; A. Warscewiczii, rosy-scarlet; Mutisii, chamois rose; and A. linearis, bright scarlet. The foregoing blossom throughout the summer. Grow in masses or groups in sunny beds or borders.

Alternanthera .- Tender ornamental-leaved perennials, belonging to the Natural Order Amarantaceæ, and used solely for carpet bedding purposes. They have crimson, orange-red, yellow and pink foliage, and grow only about 3in. high. The kinds generally grown are A. amabilis, red, green and rose; A. a. amœna, orange-red and purple; A. paronychoides, orange red and green; A. versicolor, rosy-pink and crimson. There are also several varieties of the foregoing, the names of which will be found in florists' lists. They are increased by cuttings of the young shoots inserted an inch apart in light sandy soil in boxes in a temperature of 65 to 75 deg. early in the year. When rooted, the cuttings may be kept in the same temperature and further cuttings taken from them, or they may be placed in a cooler house till May, then transferred to cold frames and planted in the beds in June. If strong bushy plants are desired, and hot beds are available, the rooted cuttings may be planted 2in. apart on the hot beds in April, the frame kept close and shaded from sun till May, then air may be admitted and the plants lifted and planted straight away from the frame in June. In August, cuttings should be taken and rooted in boxes in heat to furnish a supply of cuttings for spring propagation. Old plants may also be lifted and placed in boxes in heat for the same purpose. Natives of Brazil.

Argemone (Prickly Poppy).—Half-hardy perennials, requiring, however, to be treated as half-hardy annuals. Natives of California and members of the Poppy family (Papaveraceæ). We cannot recommend these plants for culture in small gardens, but where there is plenty of room for choice and curious plants the reader may grow them. The species are: A. albiflora, white, ift.; A. grandiflora, white, ift.; A. mexicana, yellow, ift. The flowers are poppy-like in form with yellow anthers. Seed of all the above should be sown in heat in March, and the seedlings planted out in May in a warm, sunny spot, in good, ordinary soil. Natives of Mexico.

Begonia.—Tender tuberous or fibrous-rooted plants, belonging to the Nat. Ord. Begoniaceæ, and used for the summer decoration of beds in the garden. The single and double-flowered varieties of the Tuberous-rooted Begonia make splendid bedding plants, but the singles are perhaps the most

effective. Seed of a good strain should be sown in pans, pots or boxes filled with a compost of equal parts loam and leafmould, with a little sand, in January or February, and placed in a temperature of 70 to 75 deg. Do not cover the seed with soil, but place a pane of glass over the box, and keep shaded from sun. Transplant the seedlings in due course into other boxes, and at the end of May plant them out in beds which have previously been well enriched with decayed manure. Keep the bed well watered in dry weather, and when the plants flower mark the best flowered ones for lifting and storing in the autumn, discarding those of poor quality. In the autumn lift the plants and remove them to a greenhouse to ripen. When the foliage begins to wither twist off the stems from the tubers, and a week or so later store the latter in cocoanut-fibre refuse or sand in a cool, dry, frost-proof place till February, when start them to grow by partially embedding them in soil in boxes placed in a gentle heat. The tubers may be kept in the boxes, or transferred to pots when growth has begun. In any case keep the plants in heat till May, then place in a cold frame to harden, planting out from 6 to 12in. apart, according to size, early in June. Seedlings, of course, do not make a good display the first season. One, two and more year old tubers give the best results. Very pretty effects may be obtained by using begonias as a groundwork, and dotting fuchsias, variegated maize, and other tall and graceful foliage plants among them. Then there are the fibrous-rooted begonias, of which B. semperflorens is a good example. These bear smaller flowers, are more neat in growth, and, moreover, have bronzy or crimson-tinted foliage, which adds greatly to their effect. Vernon's variety, known as Crimson Gem, has bright green foliage, deepening as the season advances to a coppery-red tint; flowers crimson. B. semperflorens alba has green foliage and white flowers; and B. semperflorens Princess Beatrice, green leaves and pink and white blossoms. Other good sorts are: Abundance, pink; Ascotiensis, rosy-red; and Rosea floribunda, pink. The varieties of B. semperflorens may be reared from seed sown as advised for the Tuberous-rooted kinds, and the seedlings planted out in June. The others, including Princess Beatrice, require to be reared from cuttings in spring. At the end of September lift the plants, place them in pots, and winter in a temperature of 55 to 65 deg.

Browallia.—Half-hardy annuals, natives of Peru, belonging to the Nightshade order (Solanaceæ). B. demissa (Syn. B. elata) deep blue, and its varieties alba, white, and grandiflora, pale blue; also B. Roezli, sky blue, are the only kinds adapted for flower garden decoration. Height 18in. to 2ft. They make very effective plants for growing in masses

in the border or in beds, and the flowers are useful for cutting. Sow seeds in heat in February or March, transplant the seed-lings when large enough to handle in boxes or singly in small pots, grow in heat till the middle of May, then harden off and plant out in June.

Calceolaria (Slipper Flower).-With one exception, mentioned below, the genus Calceolarias is not a hardy one. The various species and varieties generally met with in gardens are tender plants, requiring the protection of a greenhouse or frame in winter. They belong to the Foxglove order (Scrophulariaceæ). The yellow and dark kinds grown for bedding out, and known as Shrubby Calceolarias, are varieties of C. rugosa, an old Chilian species. Several named varieties will be found in florists' lists. Among the species, C. amplexicaulis, bearing soft lemon-coloured flowers, and possessing a vigorous habit, may be specially mentioned as a first-rate bedding plant or for massing in borders. This species is largely grown. Then there is C. alba, a tall growing species (3 to 4ft.), flowers snowy white; C. hyssopifolia, dwarf, flowers lemon-yellow; C. Pavonii, 2 to 4ft., foliage large, light green and wrinkled, flowers large, yellow and brown; C. violacea, 2ft., leaves lance-shaped, green above and white beneath, flowers, rich purple or violet, and spotted; and, lastly, C. kellyana, a hybrid with dwarf downy stems, and foliage resembling that of a mimulus, flowers yellow, dotted with brown. This kind is hardy and suitable for rockery cultivation. All the shrubby varieties and the species, omitting the hybrid kellyana, are tender, and require to be reared from cuttings in autumn in a cold frame and protected from frost; or on a hot-bed in spring. cuttings should be selected from side-shoots, be 3in. long, have their base cut through close to a joint, and then be dibbled in firmly in a bed of sandy soil, covered with a layer of silver sand. When the cuttings are inserted, give the soil a good watering, and keep the frame close and shaded for a week. When the cuttings begin to look fresh, give a little air daily and only shade during bright sunshine. In frosty weather protect the sides of the frame with litter, and cover the sashes with mats. In March prepare beds in cold frames by putting in 3in. of rotten manure and 3 to 4in. of mould on top. In this transplant the rooted cuttings 4 to 6in. apart, at the same time nipping off the points of their shoots. By May strong, bushy, well-rooted plants will be obtained for planting out. Where frames are not available, boxes may be utilised for transplanting, or the cuttings may be planted singly in 3in. pots. Calceolarias are also easily reared from seed sown in boxes or pots of sandy soil in heat in spring, the seedlings

being afterwards transplanted 3in. apart in boxes or singly in small pots. Calceolarias require a moist rich soil to do well. It is useless trying to grow them in poor, dry soils. Prior to planting, therefore, dig in plenty of well-decayed manure. See the plants have plenty of water in dry weather. Calceolarias will do well in shady borders. As the plants are liable to be attacked by eclworms, causing them to suddenly collapse, it is a wise precaution to dress the soil a few weeks before planting with Vapourite-Strawson, a gaseous compound which will destroy these and other soil pests. Natives of Chili and Peru.

Callistephus (China Aster).—The China Aster is an annual too well known to require a lengthy introduction. From the original species, originally known as Aster sinensis, and now as Callistephus hortensis, the score or so of distinct types or sections of China Aster in cultivation at the present day have been developed. The chief types of the China Aster are the Chrysanthemum, both tall and dwarf, having chrysanthemum-like flowers in clusters; Pæony-flowered, tall and dwarf, having very large pæony-shaped flowers with incurved florets; Victoria, habit pyramidal, and flowers large, with recurved or overlapping petals; Quilled, free habit, with quilled petals; Comet or Plume, having curled petals like a single-flowered Japanese chrysanthemum; Ostrich Feather, having large elegantly-curled petals; Cockade or Crown, having large blooms of varied hues with a white centre; Ray, elegant free habit, with long, needle-like quilled petals; Bouquet, dwarf, bi-colored and flat-petalled; and the Emperor, a pyramidal grower with very large flowers, and attaining a height of 2ft. There are various other fancy types, such as the Mignon, Lady, Pompon, Jewel, and so on, which the reader will find in seed lists. Special mention must be made of the comparatively new race of single-flowered China Asters, known as Aster sinensis. These grow 15in, high, have long graceful, wiry stems supporting blooms 3 to 4in. in diameter. The species has a row of delicate mauve ray florets and an orange centre. Of this there are varieties of a lavender, rose blush, white, and intermediate shades. These single asters not only make effective bedding and border plants, but they are also most useful for Asters require to be treated as half-hardy annuals, i.e., to be raised from seed sown in heat in March, or in cold frames in April. The seeds may be sown in shallow boxes filled with two parts of good soil and one part of leaf-mould and a little sand. As the seedlings are liable to be attacked by a fungus which creeps along the soil and causes the stems to wither, it is a good plan to sterilise the soil by heating it over a fire some time before using. Sow the seeds thinly and lightly cover with soil, then place a sheet of glass over the box and a piece of brown paper thereon. If the soil be well moistened with tepid water applied through a fine-rosed can before the glass is put on, no more water will be needed till the seeds sprout. When the seedlings show freely, gradually remove the paper and the glass and expose to the light. As soon as the third leaf has formed, transplant 2in. apart in other boxes, keep in heat till established, then remove to a cold frame. When sown in a cold frame, put in 6in, of good soil, draw drills 6in. apart, and sow in these. Shade the frame till the seedlings appear. Transplant in due course to another frame, or on to a warm border, in which case protect at night with mats placed over a frame of wood. Or the seeds may be sown in boxes in the cold frame. In whatever way asters are raised avoid over-coddling, and endeavour to obtain sturdy rather than tall weakly plants. At the end of May plant out the seedlings 8 to 12in. apart in the beds or borders. Asters require a soil well enriched with rotten manure and a sunny position to yield the best results. On poor soil remove the top spit and put in 6in, of cow manure. Fork this well into the subsoil, then replace the top soil mixed with a little rotten manure. In dry weather give an ample supply of water and a mulching of rotten dung. Should the plants get infested with black fly spray them in the evening with an insecticide, applied with a sprayer or syringe.

Canna (Indian Shot).—A genus of handsome foliage and showy flowering plants, belonging to the Nat. Ord. Scitamiaceæ (Ginger family). Being a native of the Tropics the Canna is naturally a tender plant and only adapted for outdoor cultivation in summer. The species are not grown for garden decoration, only the hybrids or varieties, of which a large number will be found in the leading florists' catalogues. There are two types—the Gladiolus-flowered, which are dwarf growers, and the Orchid-flowered, tall growers. Some have green foliage and flowers of red, scarlet, yellow, orange and various shades; others bronze and purple foliage and variously coloured flowers; others orchid-like blossoms, the latter being very The reader is referred to trade lists for names of handsome. varieties. Cannas may be easily reared from seed and a good variety of colours obtained thus, but to obtain the best results it is better to purchase roots of named varieties in January, plant these in pots, and grow on in a temperature of 65 to 70 deg. till May, then gradually harden off and plant out at the end of May. To rear cannas from seed, first file a little notch in each seed and then soak the seeds in tepid water for 48 hours, when sow the seeds singly an inch deep in small pots filled with a compost of two parts leaf-mould and one part

sand. Place the pots in a propagating frame (temperature 65 to 75 deg.), and keep them there till the seedlings are well up, then remove and transfer to 3in. pots, and later into 4½in. pots. Plant out the sedlings in June, but as the plants will necessarily be small the first year, brilliant results must not be expected. Cannas to do well outdoors must be grown in sheltered positions and in a deep rich soil. They display their beauty to the best advantage when grown in beds by themselves, or in association with other tropical flowering or When grown in beds plant the tall orchidflowered sorts in the middle, and the dwarf, gladiolus-flowered ones round the margin. In dry weather an abundant supply of water with an occasional application of liquid manure will be necessary. In October lift the plants and store them in a frost-proof cellar or under the staging of the greenhouse. In March place the roots in pots and start to grow in heat, planting out late in May. In the absence of heat the roots may be planted direct into the beds early in May.

Cedronella (Balm of Gilead).—A half-hardy shrubby perennial, native of the Canary Islands, and a member of the Sage order (Labiatæ). The only species we shall refer to here is C. triphylla. This has fragrant foliage, grows 3 to 4ft. high, and bears whitish or pale purplish flowers in whorls on short spikes in summer. It succeeds best in sandy loam and leaf-mould in a well-drained border at the base of a south wall. Plant in spring. Increase by seeds sown in gentle heat in spring, planting the seedlings out in May.

Celosia (Cocks-comb).—Tender annuals, belonging to the Amaranth family (Amarantaceæ), and natives of India. The Cocks-comb proper, with its dense fleshy head of flowers, is too formal and uninteresting a plant to grow in the flower garden, but the varieties of C. cristata variegata and C. pyramidalis, with their handsome plumes of crimson, red, yellow inflorescence, render them desirable plants for massing in beds during the summer. Seeds should be sown in a temperature of 65 to 75 deg. in February or March, and the seedlings subsequently planted singly in small pots, grown on in heat til May, then hardened off and planted out in June in rich soil and kept moist in dry weather.

Celsia (Cretan Mullein).—The Celsias belong to the Fox glove order (Scrophulariaceæ), and somewhat resemble the Mulleins in their general appearance. C. cretica is a biennia species, growing 3 to 5ft. high, of a shrubby habit, and bearing in summer, on long spikes, bright yellow flowers with purple red spots on the upper petals. This should be treated as an

annual, sowing the seeds in heat in March and planting out the seedlings in groups in rich soil in a sunny border in May. C. Arcturus grows 3 to 5ft. high, and has golden-yellow flowers with purple stamen-filaments. It is a shrubby perennial. May be increased by seed as advised for C. cretica, or by cuttings inserted in sandy soil in a cold frame in August, planting the rooted cuttings out in March or April. Natives of Mediterranean region.

Chamærops.—Handsome foliage plants, belonging to the Palm family (Palmaceæ). The only species adapted for outdoor cultivation is C. humilis, and this will only withstand the winter thus in very sheltered positions. It may, however, be placed outdoors in summer, sinking its pot or tub to the rim in the lawn, and removing it to the greenhouse again in October. It is a fan-leaved palm of graceful growth, grows 4 to 6ft. high, and is a native of S. Europe and N. Africa. C. Fortunei, now placed in the genus Trachycarpus, is another handsome species, which may be grown under similar conditions.

Coleus.—Ornamental, tender-leaved plants, belonging to the Lavender order (Labiatæ), and used for summer bedding only in the outdoor garden. For greenhouse cultivation there is an infinite variety of coloured-leaved forms, but for outdoor purposes only one, C. Verschaffelti, or Blumei, a dark-leaved kind, is suitable. The richly-coloured foliage comes in useful for contrasting with silvery-leaved plants in mixed beds of foliage plants. Increased by cuttings in heat in spring, the plants being afterwards grown on in heat till May, then hardened off and planted out in June. Cuttings should also be put in small pots in summer to provide stock for cuttings in the spring.

Cordyline (Club Palm).—Graceful and elegant ornamental foliage plants with narrow strap-like leaves. Nat. Ord. Liliaceæ. They are better known as greenhouse than flower garden plants. In Devon, Cornwall, Scilly Isles and Ireland they succeed outdoors, but in other parts can only be used for summer bedding. C. australis is a native of New Zealand and is the hardiest species. It has a yucca-like habit of growth—i.e., a stout stem with a tuft of strap-like leaves on top. In the Scilly Isles the plants grow 10ft. high and upwards. C. indivisa is a still more graceful species, with narrow arching leaves 2 to 4ft. long. There are several varieties of the latter, namely, lineata, atropurpurea, and Veitchii. For summer bedding they should be grown in pots in a heated greenhouse from September to June and then plunged in their pots in beds in company with other foliage plants. Increased by seeds sown in heat in spring; also by offsets.

Cosmos.—A genus of half-hardy annuals with single Dahlia-like blossoms, natives of Mexico, and members of the Daisy order (Compositæ). C. bipinnatus has feathery, fennel-like foliage, grows 3 to 4ft. high, and bears reddish-purple flowers with yellow centres in summer and autumn. There is a white-flowered variety named albiflorus, and a strain called hybridus, bearing flowers of various shades of rose, purple, crimson, pink and white. These showy border annuals require to be raised from seed in heat in March, transplanted 3in. apart in boxes in April, hardened off in cold frames early in May, and planted out 18in. to 2ft. apart in rich soil in sunny borders at the end of May.

Cotyledon.—The plants known in gardens under the names of Echeveria metallica and Echeveria secunda glauca are, strictly speaking, species of the genus Cotyledon. C. metallica is a succulent-leaved plant with purplish, glaucous spoon-shaped leaves, and grows 1 to 2ft. high. It is used as a "dot" plant in ornamental bedding, being planted out early in June and removed into a greenhouse or frame in autumn. C. secunda is a dwarf species with glaucous red-tipped leaves. C. secunda glauca has bluish-white leaves, and C. secunda glauca major, larger leaves than the latter. These kinds are used as edgings to flower beds and for lines in carpet bedding. They may be planted out late in April or early in May. In October they require to be lifted and planted close together in shallow boxes, or in a bed, in a cold frame till the following spring. All the foregoing bear pretty red and yellow flowers on curved stems during the summer. When used for carpet bedding the flowers are usually pinched off. They are easily reared from seed sown in sandy soil, the seeds being merely covered by a dusting of silver sand. The pots or boxes may be placed in gentle heat or in a cold frame, shaded from sun. The seedlings must be transplanted as soon as large enough to handle into other boxes, grown on till June, then planted out in the beds. C. secunda and its varieties are also increased by offsets removed at lifting time and inserted in boxes of sandy soil in a cold frame. Or the offsets may be taken off in summer and planted in a shady border, where they will soon root. If the flower stems are removed from C. metallica before the buds open, and these are cut off, and the stems inserted in sandy soil in a greenhouse, offsets will form in the axils of the stem leaves, and these can be taken off and inserted in pots to make young plants. C. Umbilicus (Common Navelwort, or Penny-wort) is a native plant, which grows wild in the crevices of rocks and old walls in the West of England. It has orbicular leaves and yellow flowers borne in June. This plant will grow in the crevices of damp walls or among hardy ferns in the outdoor fernery. The Cotyledons belong to the Stonecrop family (Crassulaceæ).

Cuphea (Cigar Plant).—A tender Mexican plant, with coloured stems and bright scarlet flowers, with black and white tips resembling the ash of a cigar. A member of the Loosestrife order (Lythraceæ). The only species worth growing is C. ignea (Syn. C. platycentra), and this grows about a foot high and forms a neat bushy plant. This species is used for massing in borders and beds in summer. It may be raised from seed in heat in February, and planted out late in May; or, better still, increased by cuttings in heat in spring, the plants grown on, and planted late in May. It requires a well-drained and not too heavy soil. C. lanceolata alba, white, and C. silenoides, crimson, are dwarf annual species, which must be raised from seed in heat and planted out late in May.

Dahlia.—A well-known genus of tuberous-rooted halfhardy perennials, belonging to the Daisy order (Compositæ). The species are very seldom grown, the varieties of the Show, Fancy, Pompon and Cactus types being infinitely prettier and more interesting. The Show dahlia, distinguished by its large size, symmetrical form and self-coloured flower, is not much grown for garden decoration, only for exhibition purposes. The Fancy dahlia is similar to the latter in shape and size, differing only in having its flowers of two or more distinct colours. This also is an exhibition rather than a garden type of flower. The Cactus type is the most popular one for garden decoration. The petals of the blooms are rolled or twisted and spike-like, somewhat after the character of the flower. They are, therefore, less formal and more elegant in shape, looking well on the plants, as well as being more useful for cutting than those of the Show and Fancy types. Then there is the Decorative or Semi-Cactus type, with flat petals, more or less twisted. These also make good garden. flowers, being elegant and showy. The Pompon dahlias are noted for their dwarf, compact habit and small symmetrical blooms. Single dahlias also make good decorative subjects in the garden. There are the round-flowered and flat-petalled kinds, and the New Cactus type with spiky or twisted petals. The latter are very popular kinds. Last of all is the Tom Thumb, or miniature dahlia, which only grows about a foot high. For general garden decoration there is no doubt that the Cactus, Decorative and Single Cactus varieties are the best to grow. The flowers are more beautiful in form, and their colours vary from the delicate tints to the richest and

brightest of colours. Then the blooms of the new kinds of Cactus dahlias are borne on long, sturdy stems, which render

them specially valuable for cutting.

Dahlias may be grown in groups or singly in borders, or in For general garden decoration the first plan is preferable, but for yielding flowers for cutting or exhibition, then the second one is best. When to be grown in beds the soil ought to be prepared in winter by liberal manuring and deep digging. For ordinary border culture dig out holes 2ft. wide and ift. deep, and put in 6in. of rotten manure. Fork this well into the subsoil, then fill up the hole with soil. Should the soil be heavy, add some old vegetable refuse or burnt earth to it as you fill the hole. The holes should be 4ft. apart. Early in June plant the dahlias, leaving a saucer-like hollow around each plant. Place a 4ft. stake to each plant. When growth begins and side-shoots form, allow the four lowest ones to grow, but remove others that form above these. When the first bud on the main shoot forms, remove it, and allow three or four shoots to grow just below it. Your plant will then have eight shoots, sufficient to make a good bushy plant and provide plenty of flowers. Three additional stakes should be added, triangular fashion, to each plant when the sideshoots get advanced in growth. If fine blooms are required the buds may be thinned out in an early stage, but thinning is really not needed for ordinary purposes. Feeding once or twice a week with liquid cow or sheep dung, or with an ounce of guano to each gallon of water, should commence when flower buds begin to form. A sharp look-out, moreover, must be kept for earwigs, slugs, caterpillars, etc. Trap the latter with inverted pots filled with dry moss and placed on Examine these every morning, shake out the earwigs into boiling water, or on the path and kill them with the foot. Slugs can be kept away by placing a ring of soot or lime round the plants, and caterpillars by searching the

Dahlias may be readily increased by seeds sown in boxes, pans, or pots of light soil in a temperature of 55 to 65 deg. in spring. When the seedlings have formed their first true leaf, transplant them singly into small pots and grow on a shelf near the glass. Harden off in cold frames late in May, and early in June plant out in the garden. Seedlings will not flower till late in September, when probably a large proportion of them will be of inferior quality. Mark those that are of a promising character for lifting and storing, and destroy the worthless ones. Also increased by cuttings 2 to 3in. long, removed with a heel or small portion of the old tuber attached to their base. Insert these singly in small pots of sandy soil

in a heated propagator in February or March. When well rooted transfer to 5in. pots and keep under glass till the middle of May, then harden off and plant out in June. Another method of increasing is by division of the tubers in spring.

A word with regard to lifting and storing the tubers. Wait till the first frost has blackened the foliage, then cut off the stems close to the soil and lift the roots. Remove them to an airy shed and place them stems downwards to allow the active sap to drain away. When quite dry store them in a dark cellar or outhouse or under the staging of a greenhouse heated to keep out frost. Do not bury the tubers in soil, sand or any other material, because this is apt to cause the tubers to rot. Hot, dry places ought also to be avoided for storing tubers. In January or February place the roots on the greenhouse staging or in boxes, and fill the space between the roots with soil, which keep moist. In due course growth will take place and the shoots can be utilised for cuttings. The temperature for starting the tubers should be about 55 to 65 deg. Those who have no greenhouse must leave the roots in storage till May, then plant them direct into the open garden. The best results are always obtained from cuttings annually. The old roots will make large bushy specimens for big borders, but the quality and size of the blooms are inferior to that of young plants reared from cuttings. The original home of the dahlia is Mexico.

Datura (Thorn Apple).—Half-hardy annuals or shrubs with large trumpet-like flowers, belonging to the Potato family (Solanaceæ). The shrubby species can only be grown outdoors in summer, and hence require greenhouse protection in winter. The annual species suitable for outdoor culture are: D. ceratocaula, white, fragrant, 3ft., Cuba; D. fastuosa (Horn of Plenty), purplish, double, 12 to 18in., Mexico; and D. meteloides (Syn. D. Wrighti), lilac, 3 to 4ft., Texas. seeds in heat in March, grow the seedlings on in pots till June, then plant out 3ft. apart in sunny borders in ordinary well-drained soil. D. stramonium (Thorn Apple) is an Indian annual of a weedy character, which will reproduce itself from self-sown seed. Flowers white or violet. Only suitable for rough borders. The shrubby species, D. sanguinea and D. suavolens (Syn. Brugmansia suavolens), are sometimes grown outdoors in summer and removed indoors in autumn. For this purpose the plants are trained as low standards in order that the trumpet-like flowers may be seen to greater advantage.

Ficus (India Rubber Plant).—The India Rubber Plant (F. clastica) is a tender exotic only suitable for growing outdoors between June and October. Its main value in the garden is for dotting about carpet beds, or mixing with other tropical foliage plants in beds. In October it has to be removed to a heated greenhouse for the winter. In all cases it must be grown in pots and plunged in the soil. F. stipulata (Syn. F. repens) is sufficiently hardy to grow on walls outdoors in mild districts. The late Mr. H. Burbridge, of Westgateon-Sea, once sent us specimens of shoots gathered from a plant growing freely on an outside wall in the Isle of Thanet. It might be worth while trying the plant in sheltered districts, as its shoots cling like ivy.

Gaillardia (Blanket Flower).—American half-hardy annuals and hardy perennials, belonging to the Daisy order (Compositæ). The annual species are G. amblyodon, cinnabarred, 1ft., and G. picta, orange-red and yellow, 1ft.; also picta Lorenziana, double-flowered, and G. pulchella, crimson and yellow, 2ft. Seeds of these may be sown in heat in spring, transplanted when large enough to handle into boxes, grown in heat till May, then hardened off and planted out a foot apart in groups in sunny borders at the end of May. These make showy border flowers grown thus. Or, seeds may be sown in a cold frame in September and the seedlings grown on in pots in a cool house and planted out in May. The only perennial species is G. aristata grandiflora. This has its colours arranged in zones, like the selvage of a blanket. Thus, the centre is bluish-purple, followed by a ring of red, and an outer one of yellow. In trade lists a number of named varieties of this or hybrids will be found which are more beautiful than the type. The varieties and hybrids are extremely showy plants for massing in sunny borders or in beds. The flowers, moreover, being large and showy, and possessing long stalks, come in very useful for cutting for indoor decoration. The plants require a not too heavy but fairly rich soil. Plant out in March or April. In mild districts, and on well-drained soils, the perennial kinds will survive the winter outdoors. Increased by seeds sown as advised for the annual kinds in spring; by cuttings inserted in sandy soil in a cold frame in summer; also by division of the plant in March.

Gazania (Treasure Flower).—Half-hardy, hoary perennial herbs, natives of South Africa and members of the Daisy order (Compositæ). Gazanias require to be sown under glass between October and May, and afterwards may be used as edgings to flower beds, or grown in masses on the margins of sunny borders. When in flower they are very attractive. Gazania splendens is a beautiful hybrid, bearing large orange marigold-like blossoms, spotted with black and white at the

base, in summer. Its variegated form, with green and yellow leaves, is also very pretty. Other kinds sometimes grown are G. Pavonia and G. rigens. The first-named are the best. These have to be reared from cuttings in sandy soil in a cold frame in July and August. When rooted transfer to small pots and grow on a shelf near the glass in a greenhouse heated to keep out frost, and plant out at the end of May.

Gerbera.—G. Jamesoni is a tender perennial from the Transvaal, which as yet has not been grown outdoors, except in mild districts in the South. It belongs to the Daisy order (Compositæ), has pinnate leaves and scarlet flowers 3in. or so in diameter, with a yellow centre. It grows about a foot high. If tried outdoors it should be planted in spring in sandy peat and loam in a warm, sheltered border. Where not planted out grow in a greenhouse till June, then plant out in a sunny spot for the summer. So beautiful a plant is well worth trying outdoors. Increased by seeds sown in heat in spring.

Gramatocarpus (Cup-flower).—G. volubilis (Syn. Scyphanthus elegans) is a Chilian half-hardy annual climber, belonging to the Nat. Ord. Loasaceæ. It has pinnate foliage and golden-yellow flowers, spotted with red, borne in summer. A pretty climber for low, sunny trellises or rambling over tree stumps, etc., in summer. Sow seeds in gentle heat in March, grow the seedlings on in pots till June, then plant out. Ordinary soil.

Grammanthes.—Half-hardy annuals, belonging to the Stonecrop family (Crassulaceæ) and natives of S. Africa. G. chloræflora, orange-yellow and red, and G. gentianoides, crimson and yellow, both growing 4in. high, and flowering in summer, are the only two species worth growing. Sow in heat in March, and plant out the seedlings at the end of May on sunny rockeries or on the margins of borders.

Hebenstretia.—H. comosa is a pretty half-hardy annual from S. Africa, bearing white flowers blotched with orange-scarlet on long, slender spikes. The flowers emit a pleasing perfume in the evening, and the plant is suitable for growing in clumps in sunny borders in good ordinary soil. It grows about 18in. high, and may be reared from seed sown in heat in March, planting the seedlings out in May; or outdoors in April, where required to flower. A member of the Nat. Ord. Selaginaceæ.

Hedychium (Fragrant Garland Flower).—This is a genus of greenhouse plants, one species of which, H. Gardnerianum, is suitable for flower garden decoration in summer.

It is a native of India and a member of the Canna order (Scitamiaceæ). The plant has herbaceous stems, large leaves and yellow fragrant flowers borne in racemes at the apex of the shoots. The root-stocks require to be stored in a dry frost-proof place during winter, placed in pots in heat in early spring, and hardened off and planted out in the garden early in June. In mild districts the roots may be left in the ground, protecting them with a mulch of dry litter or ashes. These plants are seen to the best advantage when grouped with other tropical plants. Increased by division of the roots in spring.

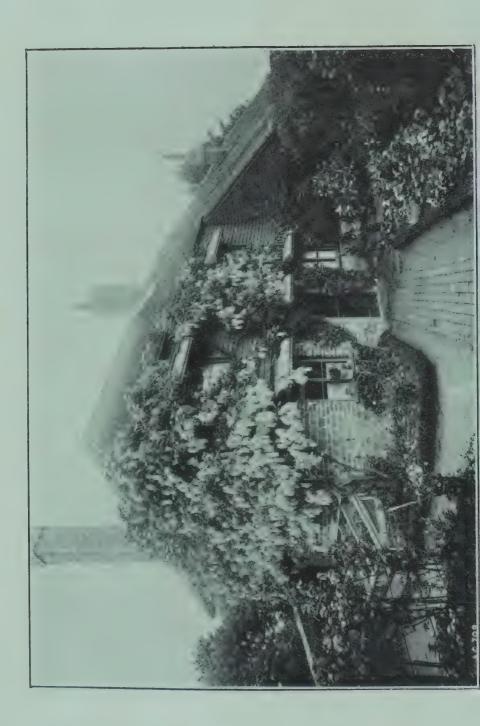
Helichrysum (Everlasting Flower).—Half-hardy annuals, belonging to the Daisy order (Compositæ). They are showy plants to grow in groups in sunny borders, and their flowers when fully developed are valuable for cutting and drying for winter decoration. H. bracteatum, a native of Australia, is the only species grown, but there are numerous single and double varieties of it. A mixed packet of seed will give a variety of colours—white, red, yellow, carmine and purple. Coccineum is a fine bright red variety; luteum, yellow; purpureum, rose and red; and Silver Ball, silverywhite. The plants grow 2ft. high. Sow seeds in gentle heat in March, harden off the seedlings in a cold frame in May, and plant out early in June. Grow in groups of a dozen plants at 6in. apart from plant to plant. When the flowers are fully open, cut them with long stalks, tie in small bunches, and suspend head downwards in an airy shed to dry for decorative use in the house.

Heliotropium (Heliotrope; Cherry Pie).—The Heliotrope (H. peruvianum) is a well-known fragrant-flowered greenhouse plant, which is much used as a bedding plant in summer. It is a native of Peru and a member of the Forgetme-not order (Boraginaceæ). The species has greyish-lilac flowers, but there are several varieties with flowers of varying tints. A few of the best are Madame Bruant, mauve, light centre; President Garfield, mauve-purple; Roi des Noirs, maroon-purple, white eye; White Lady, white. Heliotropes are either grown by themselves in beds, grouped in the borders, or mixed with other appropriate plants. Sometimes, too, they are used to good effect as small standards, or tall bushes with a carpeting of other dwarf plants. Heliotrope and white, yellow, pink or purple are colours that generally go well together. Thus a bed of tall heliotropes with a groundwork of yellow violas or begonias, or white violas or begonias, make a very pleasing combination. Again, a bed of dwarf heliotropes with silveryleaved Maize or Eulalia dotted amongst them is exceedingly



A PLEASING EXAMPLE OF BEAUTIFYING OLD BUILDINGS.

The walls are draped with climbing roses, jasmines, and other creepers, thus forming a pleasing object rather than an eyesore in the garden.



pretty. Heliotropes may be reared from seed sown early in spring to flower in summer. But to get good uniform plants of named varieties cuttings should be inserted in heat in spring or in summer. A few old plants may be lifted in autumn, potted and kept in heat to furnish cuttings in spring. Care must be taken not to over water in winter. In spring place the rooted cuttings in 3 or 4½ in. pots according to size, harden off in cold frames in May and plant out in June. Dwarf plants should be placed a foot apart.

Humea.—H. elegans, the only species worth growing, is a half-hardy biennial, growing 5 to 6ft. high, with large odoriferous leaves and amaranth-brown flowers borne in feathery panicles. Is a native of Australia and belongs to the Daisy order (Compositæ). This handsome and graceful plant is employed with other noble sub-tropical plants for summer bedding. It is not an easy plant to grow. Seed should be sown in light, sandy soil in a pan covered with and placed in a cold frame in July. When the seedlings appear transplant them singly into small pots filled with a compost of two parts loam and one of equal parts of fine charcoal, dried cow manure and sand. Keep in the frame till September, then remove to a heated greenhouse. Transfer into larger pots in due course, keep the roots slightly on the dry side, and in March place in 8 or 10in. pots, harden off in May, and plant out in Tune.

Impatiens (Balsam).—Three species of this genus are grown for flower garden decoration, and all belong to the Geranium order (Geraniaceæ). One of them, I. Roylei, bearing rosy blossoms, and growing 4 to 5ft. high, is almost a weed in gardens, reproducing itself freely from seed. It is only suitable for growing in shady spots in rough corners. The best species of all, however, is I. Balsamina, a tender annual much grown under glass and frequently in beds outdoors in summer. Seeds of this have to be sown in heat in March, the seedlings grown on till the end of May, then planted out in good rich soil. The plants grow a foot or so high, and make a very pretty display in summer. A good mixed strain will yield a great The camellia-flowered form is the best. variety of colours.

Iresine.—Tender plants with coloured foliage, much used for bedding purposes in summer. Two species are grown, and these belong to the Cockscomb order (Amarantaceæ). Herbsti is a native of Brazil, grows 1ft. high, and has crimson leaves and stems. There are two varieties, one, acuminata, with narrow leaves, and the other, reticulata, with crimson leaf stalks and green leaves veined with golden-yellow. I. Lindeni has narrow leaves of a deep, crimson-red colour. These plants contrast well with white-leaved plants in formal bedding. To obtain a stock of these plants lift, repot and place in a warm greenhouse in September a few old plants, and strike cuttings from these in heat in spring. Grow the rooted cuttings on in heat in spring, harden off in May, and plant out early in Junc.

Kochia.—A South European half-hardy annual with cypress-like foliage, and fine narrow leaves which are pale green at first, but eventually change to a richly-coloured tint as the summer advances. K. scoparia (Mock Cypress) is the only species grown, and this belongs to the Beetroot order (Chenopodiaceæ). Sow the seeds in boxes of light soil in a gentle heat in spring, transplant when large enough to handle into other boxes, harden off in May and plant out in June. The plants have a dense pyramidal habit and are well suited for growing in outdoor vases.

Lantana (Surinam Tea Plant; Mountain Sage).-A genus of shrubby perennials, requiring to be grown in a greenhouse in winter and outdoors during the summer. Dwarf plants are used for summer bedding, and tall ones trained as standards for subtropical gardening. They belong to the Verbena order (Verbenaceæ). The species are not much cultivated, but there are many charming hybrids that are well worthy of culture in gardens. A few of the best for summer bedding are: Chelsea Gem, crimson and amber; Delicate, pink with white eve; Distinction, orange scarlet; Drap d'Or, orange-yellow; La Neige, white; and Ne Plus Ultra, rosy-pink. Lantanas may be reared from seed in gentle heat in March, the seedlings grown on, hardened off in May and planted out in June to flower later in summer. To get really good plants of a given colour insert cuttings of side-shoots in sandy soil in pots in August, place these in a propagating frame till rooted, then grow on in small pots in heat. Or cuttings of young shoots may be inserted in spring in heat and grown on. When planted out see that the soil is deep and rich. Give plenty of water in dry weather and occasional applications of liquid manure. In autumn a few of the best plants may be lifted, moderately pruned and potted and placed in a heated house to supply cuttings in spring or make large bushes to plant out the next season. To ensure standards, commence with a seedling or cutting, remove all side-shoots and grow with one stem till the desired height is attained, then nip off the points, and when side-shoots form, nip off the points of these at 3in. from their base till a large head is formed, then cease. In after years, prune back closely in early spring, repot and grow on, planting out in June.

Lobelia. A genus of tender annuals, tender and hardy perennials, belonging to the Harebell order (Campanulaceæ). The tender kinds are the well-known dwarf lobelias, much used for summer bedding, and of which L. Erinus, a South African species, is the parent. Although the bedding Lobelia is more or less regarded as an annual, it is a perennial. There are two or three distinct types of these dwarf lobelias in cultivation. There is, for example, the Compacta type, a compact grover; speciosa, a type with larger flowers; and pumila, a very dwarf type. Barnard's Perpetual, Cobalt Blue, Crystal Palace, and Emperor William are good blue varieties; Compacta alba, White Gem, and White Lady, good white sorts; and Carmine Gem, Prima Donna, and tricolor, good carmine or red sorts. There are single and double-flowered varieties. These dwarf sorts are easily reared from seed in heat in early spring, or in early autumn, transplanted into boxes, hardened off in May and planted out 2 to 3in. apart in beds in June. Or, if plants of a uniform size and special variety be desired, cuttings can be taken off old plants in January and February, inserted in boxes of light, sandy soil in heat, and, when rooted, potted or boxed off, kept in heat till May, then hardened off and planted out in June. To get a supply of plants for yielding cuttings in spring, lift plants from the open in September, plant in small pots and grow on a shelf near the glass in a warm house. A fortnight before lifting the old plants cut off the flower shoots to within a couple of inches of the ground, then the plants will winter more safely. These Lobelias are too tender to grow outside in winter, or even to be kept in a cold frame. heated greenhouse is essential to preserve them. L. ramosa is a tender annual species of a more free growing type than L. erinus. It is much grown for trailing in vases, window boxes, etc. There are blue, white and rose varieties of it. and all are easily reared from seed as advised for L. Erinus.

Melianthus (Cape Honey Flower).—M. major is a hand-some sub-tropical plant with finely-cut glaucous foliage, and grown solely for its ornamental foliage as a decorative summer bedding plant. It belongs to the Horse-chestnut order (Sapindaceæ) and is a native of S. Africa. Although a shrubby plant it is best treated as a half-hardy annual, seeds being sown in heat early in the year, the seedlings grown on in pots, hardened off in May, and planted out in June. This ornamental plant is well suited for intermixing with Cannas, Castor Oil, and Tobacco plants in large beds.

Mesembryanthemum (Fig Marigold).—A genus of tender plants with fleshy succulent foliage, belonging to the

Nat. Ord. Ficoidaceæ. With the exception of M. edule (Hottentot Fig), which thrives outdoors in favoured spots on the Welsh coast and in the South and West, producing shoots many feet in length, the species named below are only suited for outdoor culture in summer. M. cordifolium variegatum is a dwarf trailing species with leaves edged with creamy white, and is much used for carpet bedding or for edging beds, draping vases and window boxes. It is a very ornamental plant. The best way to propagate it is to insert small cuttings rather thickly together in shallow pans filled with light sandy soil during the autumn, as the growth then is not so sappy, and on that account not so liable to damp off. After the cuttings are inserted, give the pans a watering through a fine rose to settle down the soil. They should then be stood in the sun for an hour or two so that the superfluous moisture may dry up again. The pans may then be placed in a frame or on a greenhouse shelf, no more water being necessary till roots have formed, unless the weather be hot and dry, and the cuttings show signs of shrivelling, and then only sufficient should be applied to keep them plump. By spring they will be nice plants, and may be potted off into small pots. It more plants are required, cuttings may be taken from these and inserted in heat in spring, but care must be taken not to over water them or they will damp off. Plant out in May or June, and as the shoots grow, peg them down to the surface then a neat edging will be ensured. The other species are annuals. They are M. crystallinum (Ice Plant), a suitable kind to grow on a sunny rockery; M. pomeridianum, a species growing 6in. high and bearing yellow flowers in summer; and M. tricolor, a pretty dwarf species, with pink or crimsor flowers having a dark centre. Sow seeds of the Ice Plant in heat in March and plant out in May; the others may be sown outdoors in April on a sunny rockery, or a dry sunny border M. edule may be planted out in May and left to take care Easily increased by cuttings as advised for M cordifolium.

Mirabilis (Marvel of Peru.—A genus of showy herbaceous perennials with tuberous roots, belonging to the Nat Ord. Nyctaginaceæ. M. Jalapa is a Peruvian species, growing 3ft. or so high, and bearing red lilac, white or yellow fragran flowers late in summer. There are dwarf and semi-dwar forms of it, and all make handsome plants for growing it mixed sunny borders in good ordinary soil. Not being hard it requires to be treated like the dahlia, i.e., have its tuberou roots lifted in October and stored away in a frost-proof plac till May, then planted out, or started in gentle heat in March hardened off in May and planted out in June. M. longiflor

is a Mexican species, bearing white, pink or violet fragrant flowers in August; and M. multiflora, a Californian species with purple flowers. These require the same treatment as M. Jalapa. Increased by seeds sown in heat in spring, and the seedlings planted out in May to flower late in summer.

Musa (Banana).—The Musas are tropical plants, with large handsome leaves, and occasionally used for the summer decoration of the garden. M. Ensete is the only species suitable for the purpose, and this belongs to the Canna family (Scitamiaceæ). It grows 10ft. high or more, and has leaves often 10ft. long and 3 to 4ft. wide. The plants are usually put outdoors in June and brought into a warm house again in early October. They may be grown in pots, and the latter plunged to their rims in mixed beds of tropical plants or in the turf of the lawn; or planted out in June, lifted in September, their leaves drawn together in a bundle and secured thus, and the plants packed closely together in a warm house, the roots being simply covered with mats or cocoanut-fibre refuse. When outdoors grow in a warm sheltered position.

Nertera (Bead Plant; Fruiting Duck-weed).—The only species grown is N. depressa, a dwarf plant with minute leaves and creeping stems, furnished with small orange-red berries. It is much used for carpet bedding, but is also adapted for growing on a moist ledge of a partially shaded rockery. Will grow in ordinary soil. For carpet bedding plants should be reared from seed in heat in spring and the seedlings transplanted thickly in small pots and grown in a shady part of the house. A better way still to get up a stock of plants is to divide old plants into small portions and pot these off in spring. When the plants flower place them on a shelf near the glass and do not allow water to fall on the flowers, then berries will set freely. Tufts of this plant, well berried, have a charming effect when esconced in a setting of silvery-grey Antennaria. The plant belongs to the Woodruff order (Rubiaceæ).

Nicandra.—N. physaloides, the only species grown, belongs to the Nightshade order (Solanaceæ), is a native of Peru, bears pretty blue and white flowers in summer, and grows 18in. to 2ft. high. It is a showy half-hardy annual for a sunny border. Sow seeds in heat in February, transplant the seedlings a few inches apart in boxes of light soil, harden them off in May and plant out 2ft. apart in June.

Nicotiana (Tobacco).—A genus of half-hardy annuals, natives of America, and members of the Nightshade order (Solanaceæ). Some of the species are grown for their handsome

foliage and used in combination with other fine-leaved plants for sub-tropical bedding. These are N. colossea, a species growing 5ft. high, and with leaves measuring 2ft. long and 1ft. wide, the young ones being prettily tinted with red; N. macrophylla gigantea, growing 6ft. high and with large broad leaves; and N. wigandioides, a noble plant growing 8ft. high. The species grown for their flowers are N. affinis, bearing pure white, tubular flowers, which are very fragrant in the evening; a very popular plant in large and small gardens, and the roots of which often survive the winter and put forth new growth in spring. N. sylvestris is another pretty species with large leaves and pure white, long tubular and sweet-scented flowers; a very interesting plant. Then, the most beautiful of all the flowering Tobaccos, is N. Sanderæ, a hybrid between N. affinis and N. Forgetiana. This plant grows 2ft. or so high and bears bright carmine-red flowers in profusion. Still more beautiful are the latest Sanderæ hybrids, which bear as many as eight distinct shades of colour-pink, red, crimson, carmine, etc., and constitute a really charming race of showy plants for massing in beds or borders. All the kinds mentioned require to be raised from seed in heat in February or March, the seedlings grown on under glass till May, then hardened off and planted out early in June in good rich soil in sunny positions. They love a rich soil.

Origanum (Dittany; Hop Plant).—O. Dictamnus, a native of Crete and a member of the Lavender order (Labiatæ), is a tender perennial only suitable for outdoor culture in the South of England and in Ireland. It grows about a foot high and bears purplish flowers in hop-like heads in summer. Requires to be grown in light sandy loam on a sunny sheltered rockery. Plant in spring. Increased by cuttings of the young shoots in heat in spring, also by division of the roots in March.

Pelargonium (Stork's Bill).—This is the correct generic name of the so-called "Geranium," so extensively grown in greenhouses and for summer bedding. The true Geraniums are dealt with elsewhere. The "Zonal Geranium," "Ivy-leaved Geraniums," and "Oak-leaved Geraniums," are all members of this genus. The Pelargonium, however, belongs to the same Nat. Ord. as the Geranium proper, the Geraniaceæ. It may be interesting to add here that the "Zonal Geranium," including the Silver, Tricolor and Bronze-leaved types, have been derived from a cross between P. zonale and P. inquinans, two African species, while the "Ivy-leaved Geranium" is derived from an African species called P. peltatum. The cut-leaved or scented-leaved kinds owe their parentage to P. quercifolium, the

"Oak-leaved Geranium." So much by the way. The Zonal and Ivy-leaved Pelargoniums, as we shall now call them, are exceedingly showy plants for summer bedding, and were formerly used more extensively for that purpose than now. Since hardy plants have been more generally grown they have not been so much in request, but nevertheless they are still of great value for making beds, vases and window-boxes gay in summer.

ZONAL PELARGONIUMS.—The Zonal type best suited for bedding purposes is a dwarf compact habit and a distinctive colour, as crimson, scarlet, pink and white. The delicately tinted sorts so popular in greenhouses are not suitable, as their colours are apt to lose their beauty under the hot rays of the sun. To ensure the plants flowering freely, the soil must not be too rich. A rich soil promotes leaf growth and few Still a naturally poor and hungry soil must be enriched with decayed manure to ensure healthy growth. Where the soils are very rich it is a good plan to plunge the plants in their pots; this restricts the growth and promotes free flowering. The end of May is soon enough to plant out, and then the plants should be placed ift. apart each way, the soil pressed firmly around them, and a good watering given them. The best results are obtained from cuttings struck in August in a sunny border outdoors and lifted and potted in September, or in pots or boxes in cold frames and taken into a heated greenhouse early in October. In March, or earlier, the cuttings should be potted off separately in 3in. pots, and the points of the shoots pinched out to ensure a bushy growth. Keep in the greenhouse till May, then harden off in cold frames preparatory to planting out later. Old plants are better suited for filling vases, or odd corners in borders, than for beds. They are too irregular in growth to look well in a mass. Old plants may be grown on year after year for the former purpose. Each spring shorten the straggly growths, repot, and grow on in heat till May, then harden off for outdoor growth. Zonals in beds do not require a too free supply of water. Where the soil is poor an occasional dose of weak liquid manure will be beneficial.

TRICOLOR AND BRONZE KINDS.—These are an exceedingly handsome type of variegated zonal pelargoniums, and are most effective bedding plants. In the days of our youth they were quite the rage, but now they are seldom grown except in large gardens, mainly because they are not of such easy culture as the zonals. They are specially appropriate for small beds or as edgings to the zonals. Grow in moderately rich soil, and plant out in June from 8 to 12in. apart. The Silvers and the Bronzes are the easiest to increase, and the Tricolors the most difficult; they are so apt to rot in winter. The cuttings should be inserted singly in 2½in. pots in gritty soil early in August, and the pots placed in a cold frame. The sashes should be kept off the frames in fine weather. Towards the end of September remove the plants to a shelf in a heated greenhouse and only give enough water to prevent the soil getting dry. In spring transfer the plants to 3in. pots, keep near the glass, harden off in frames in May and plant out in June. In the event of any difficulty being found in striking Tricolors adopt the following plan: Take two small pieces of stick, say small worn-out wood tallies for example, tie one of them across the cutting, about the sixteenth of an inch above its base, with a strip of bast or worsted. Tie the other lengthwise to the cutting, so that it projects two inches beyond the base, and overlies the crosspiece. Now, if the upright stick is thrust into the earth until the base of the cutting just touches the soil, the cutting will be held firmly in its position, and in due time will throw out roots, which may be covered with a sprinkling of the mixture the bed is made of. By this mode of procedure an enormous number of soft shoots may be struck during winter, and the losses by damping will be "next to nothing." In no case should flowers be permitted to grow on the foregoing plants. Silver-leaved pelargoniums have their leaves margined or blotched with silvery-white; Tricolors, zones or bands of golden, carmine, red, crimson or white, three colours on each leaf; Bronzes, the leaves more or less suffused with a bronzy tint; Golden Bicolors, leaves with two colours, golden and green. Old plants of the Tricolors should be lifted in September, potted and grown on to produce cuttings in spring, or grown again in beds. Silvers and Bronzes may be treated in a similar way.

PELARGONIUMS.—These have IVY-LEAVED become very popular of late years as edgings to beds, massing in beds, or for draping vases and window boxes. There are double and single varieties, and both are exceedingly beautiful, as they flower so freely. Varieties of a trailing habit are best for this purpose. The erect growing kinds may be used for clothing the bare stems of standard roses and similar objects. should be planted out late in May or early in June, and in the case of those grown in beds, have their shoots pegged to the surface of the soil as they grow. A month or so after planting the plants will be literally covered with gay blossoms. A pretty way of growing these in beds is to use them as a carpeting to tall fuchsias, variegated maize, etc. Cuttings should be struck in the way advised for the Tricolors. Old plants may also have their shoots shortened, and lifted and potted to supply cuttings in spring, or to be grown on to make larger plants.

SCENTED OR CUT-LEAVED PELARGONIUMS.—These are suitable only for filling odd corners in borders. Their chief beauty lies in their foliage, which is useful for cutting. Increased in the same way as the Zonals.

STANDARD TRAINED ZONALS—The strong-growing sorts of Zonals may with a little skill and patience be trained into standards, with stems 3ft. or so high. To secure these strong cuttings should be struck and the main stem only allowed to grow till it has reached the desired height, all side growths being removed. When the desired height is obtained, pinch off the points and allow side growths to form. When these are 6in. long remove their points, and when further growths are of similar length serve them likewise. The plants will require annual repotting and pruning into shape each spring. In June the plants can be plunged in their pots outdoors and removed indoors in September.

SELECTION OF BEDDING ZONALS.—Henry Jacoby, crimson; John Gibbons, orange-scarlet; Mrs. R. Cannell, salmon; Vesuvius, scarlet; West Brighton Gem, scarlet; King Edward VII., velvety-crimson; Beckwith's Pink, rosy-pink; Double Jacoby, crimson; F. V. Raspail, scarlet, double; Hermione, white,

double; King of Denmark, salmon, double.

SELECTION OF IVY-LEAVED PELARGONIUMS.—Doubles: Achievement, salmon-pink; Madame Crouse, silvery-pink; Souvenir de Charles Turner, rich pink; Col. Baden-Powell, bluish-lilac; Candeur, white. Singles: La France, rose; Victoria, rose-pink; Bridal Wreath, white, pink centre.

SELECTION OF TRICOLORS.—Leaves with prevailing golden tint: Mrs. Henry Cox, Peter Grieve, Lady Cullum, Sophia Dumaresque, and Mrs. Pollock. Leaves with a prevailing silver tint: Mrs. Miller, Lass o' Gowrie, Eva Fish, and Dolly

Varden.

SELECTION OF BRONZE-LEAVED.—Her Majesty, Marshal Macmahon, and Distinction.

SELECTION OF GOLDEN-LEAVED.—Crystal Palace Gem and

Robert Fish.

SELECTION OF SILVER-LEAVED.—Boule de Neige, Flower of Spring, Dandy (very dwarf), Mangle's Variegated, and Lady Plymouth; last two good edging sorts. L'Elegante is a pretty kind for hanging baskets and vases.

SELECTION OF SCENTED-LEAVED.—Crispum, citron-scented; Denticulatum, finely cut foliage; Odoratissimus, peppermint-scented; Radula, balsam-scented; and Quercifolium, oak-

leaved.

Perilla.—The only species cultivated is P. nankinensis, a Chinese annual, with dark, bronzy-purple foliage, growing I to

2ft. high. It belongs to the Lawender order (Labiatæ), and is grown for the sake of its foliage as a summer bedding plant. It is a very striking plant when contrasted with silvery-leaved plants. Sow seeds in heat in March, transplant the seeds as soon as large enough to handle, harden off and plant out late in May.

Petunia.—Half-hardy perennials, belonging to the Nightshade order (Solanaceæ), and used extensively for summer bedding. The present race are the result of a cross between P. nyctaginiflora and P. violacea, two S. American species. There are single and double forms, and both are easily reared from seeds sown in heat in February or March and the seedlings pricked off an inch or so apart in pans or boxes, and later planted in small pots, hardened off in May and planted out in June. Special single and double sorts may also be propagated by cuttings in heat in August or in early spring. Petunias require a rich soil and a sunny position to do well. They show to the best effect when planted in bold masses. Best treated as half-hardy annuals, i.e., raised from seed every year, but choice kinds may be grown on in heat and increased by cuttings as above advised. Named varieties may be obtained, but a good assortment of colours may be obtained from the mixed packets of special strains sold by all seedsmen.

Phormium (New Zealand Flax).—Hardy or half-hardy perennials, belonging to the Lily order (Liliaceæ), and natives of New Zealand. P. tenax is a handsome plant, with green Iris-like foliage and yellow or reddish flowers borne on spikes 4 to 6ft. high. There are several forms of it, viz., atropurpureum, reddish-purple foliage; variegatum, leaves striped white and yellow; and veitchianum, leaves green, striped creamy white. The latter is a noble plant for grouping with sub-tropical plants in beds or growing on a lawn in warm sheltered positions. Hardy only in the South and West. P. Cookianum (Syn. P. Colensoi) is a smaller-growing species, said to be more hardy than P. tenax. There is a variegated form of it. Where P. tenax will not succeed outdoors in winter, grow in pots in a greenhouse in winter and plant out in May. Ordinary soil. Increased by division in spring.

Plumbago (Leadwort).—P. capensis, blue, and P. capensis alba, white, are tender climbing shrubs often grown largely for summer bedding. Dwarf plants reared from seed or cuttings are used for edgings to beds and borders, the shoots being pegged to the soil, and larger plants trained as bushes, pyramids or standards are employed for mixing with sub-tropical

plants, or dotting about beds carpeted with violas, begonias, etc. For the latter purpose the plants have to be grown in pots all the winter, pruned into shape in winter, and repotted in March, grown in heat till May, then hardened off and planted out later. In September the plants must be 'ifted, repotted and placed under glass. P. capensis may be reared from seeds sown in heat in early autumn and the seedlings grown in heat till May, then planted out, or by seeds sown in spring to yield plants for flowering the following year; also by cuttings of young shoots 3 to 4in. long, removed with a heel and planted singly in small pots of sandy soil in a propagator in spring. A native of S. Africa, and a member of the Nat. Ord. Plumbaginaceæ.

Portulacca (Purslane; Sun Plant).—A genus of charming half-hardy annuals, natives of Brazil, and belonging to the Nat. Ord. Portulaccaceæ. The only species we shall refer to here is P. grandiflora, which grows 6in. high and bears crimson-purple flowers in summer. Of this there are numerous varieties or strains which far eclipse the species in beauty. Thus there is alba, white; aurea, orange-yellow; caryophylloides. rose, streaked with crimson; rosea, rose or pink; splendens, crimson-purple; Thellusonii, orange-scarlet; Thorburnii, yellow; and flore-pleno, a double-flowered strain. A mixed packet will yield a wonderful variety of colours. Portulaccas are fleshy-leaved plants, and specially adapted for growing in dry sunny borders or beds or on rockeries. Here they will flower most profusely, but they will do better still in richer soil providing the situation be sunny. Best grown in masses. Seeds may be sown in sandy soil in gentle heat or on a hot bed in March, the seedlings being transplanted into boxes, gradually hardened off and planted out 4 to 6in. apart late in May. Or seeds may be sown thinly later in May where the plants are required to grow, and then thinned out later. The flowers open in bright sunshine only.

Ricinus (Castor Oil Plant).—The Castor Oil Plant (R. communis) is a half-hardy annual, a native of tropical Africa and a member of the Spurge order (Euphorbiaceæ). It grows four or more feet high, and has large palmate, glaucous green leaves and reddish stems. The plant is grown for the sake of its foliage only, and is used for intermixing with other foliage plants for summer bedding. There are several superior varieties of it, as Gibsonii, purple-bronzy foliage; Duchess of Edinburgh, bronzy-red foliage; sanguineus, reddish-purple foliage; and zanzibarensis, with leaves of various tints. They are easily reared from seeds sown singly in small pots of light loam in a temperature of 75 to 85 deg., the seedlings being

afterwards grown in larger pots, hardened off in May and planted out in June. To facilitate the germination of the seeds it is a good plan to cut a slight nick in the hard covering by means of a file, and then to soak them in tepid water for twelve hours before sowing. The Castor Oil plant is really a perennial, but is best grown as an annual.

Salpiglossis (Scallop or Trumpet Tongue).—Half-hardy annuals, belonging to the Nightshade order (Solanaceæ). S. sinuata, a native of Chili, is the parent of the very fine strain of showy varieties now in cultivation under a variety of names, as grandiflora, various colours; aurea, yellow; kermesina, crimson; coccinea, orange-red; rosea, rose; violacea, violetpurple; and nana, dwarf. They have pinnately cut foliage and curiously veined or netted funnel-shaped flowers. These beautiful annuals are showy and charming plants to grow in beds or in masses in the mixed border. Seeds may be sown in gentle heat in March, the seedlings being transplanted in due course singly in small pots or a few inches apart in boxes, hardened off and planted out 6 to 8in. apart late in May. Or seeds may be sown in April in the borders, and the seedlings thinned out to 6in. or so apart later on. They like a rich well-manured soil and a sunny position.

Solanum.—We have dealt with the shrubby species in the section devoted to Trees and Shrubs. Here it only remains for us to deal with those species which are grown solely for the beauty of their foliage for flower garden decoration in summer. The chief kinds grown for this purpose are S. atropurpureum, a native of Brazil, with purplish- or bloodred stems and large leaves furnished with prickles and white midribs. S. marginatum, a native of Abyssinia, with white woolly, prickly stems and prickly leaves, white beneath and green above, margined with white. S. robustum, a Brazilian species, with woolly stems and leaves green and velvety above and rusty-yellow and woolly beneath, and spiny. S. Warscewiczi, a S. American species, with red hairy, prickly stems and green leaves furnished with prickles on the midribs. treated as half-hardy annuals, seeds being sown in heat in February, and the seedlings grown on in pots, hardened off in May, and planted out in mixed beds of tropical plants in June. If very large plants are desired sow early in autumn, grow on in heat in pots and plant out following June. Nat. Ord. Solanaceæ.

Tagetes (African, French and Mexican Marigolds).—Half-hardy annuals, belonging to the Daisy order (Compositæ), and popular bedding and border plants for the summer

decoration of the flower garden. The African Marigold (T. erecta) is a robust-growing species, with large yellow or orange flowers, and growing 2ft. high. The double-flowered form is the most generally grown. There are several distinct varieties, as aurea, orange; sulphurea, sulphur yellow; fistulosa, double-quilled petals; and nana, dwarf. are very showy plants for grouping in the mixed sunny border. The French Marigold (T. patula) is of less vigorous growth, growing 12 to 18in, high, and bearing double flowers striped or mottled in all shades of vellow, orange, chestnut. The foliage, too, is more finely cut than that of T. erecta. The variety called Legion of Honour is a pretty single-flowered variety, with yellow ray florets and dark spots at the base. Silver King is also a single-flowered variety, with sulphur-vellow ray florets and dark spots. Both 6 to oin. high only. Nana is a dwarf form, growing 6in. high. T. lucida (Mexican Marigold), and its varieties pumila, yellow, gin.; and Golden Ring, orange, 6in., are single-flowered kinds with very finely-cut foliage. The last three are much used as edgings to beds, or grouping on the margins of borders in summer. All three species are easily reared from seed in gentle heat in February or March, the seedlings being transplanted into boxes, hardened off early in May, and planted out late in May. The African kinds should be planted 18in.; the French a foot; and the Mexican 4 to 6in. apart. They require a rich soil and sunny position to grow them well. ensure large blooms on the African kinds, thin out the flower buds early, allowing one to every six square inches. Pick off the flowers as they decay, then the plants will flower more freely.

Verbena (Vervain).—The Verbenas are half-hardy perennials, belonging to their own special order, the Verbenaceæ. The only partially hardy species is V. venosa, a native of Brazil. This has fleshy roots and summer shoots growing I to 2ft. high, bearing purplish or violet flowers freely in summer. In light well-drained soils the roots will survive the winter for years and produce a crop of flowers annually. Even in moderately heavy soils the roots will live if protected with a mulching of manure in winter However, to get good results the roots should be lifted in autumn, stored in soil in a frostproof place till early spring, then be placed in heat to yield shoots, which can be taken off and inserted as cuttings in light soil in heat, potted off, grown on in heat till May, then hardened off and planted out late in May. It makes a splendid plant for massing in beds or in borders. The flowers stand rain well. The garden verbenas are hybrids and varieties obtained by selection. They are very varied in colour, and excellent plants for growing in masses or as edgings to beds in summer. Special mixed strains of these verbenas are sold by all seedsmen, and an infinite variety of colours may be obtained from them. Named varieties are also to be had, the best being Boule de Niege, white, fragrant; Crimson King, crimson; Ellen Willmot, pink with a white eye; Lord Brooke, scarlet, white eye; Lovely Blue, blue, fragrant; Lustrous, intense scarlet, white eye; Purple Queen, deep purple; Zulu, claret; and Warley, rich red. These must be perpetuated by cuttings taken from old plants cut back in autumn and grown on in heat in early spring. The mixed strains have to be reared from seed in heat in February, the seedlings placed in small pots in due course, grown on in heat till May, then hardened off and planted out at the end of the month. Before planting out dig the soil deeply and work in plenty of decayed manure. Verbenas delight in a rich, deep soil. Plant out a foot apart, and, as the shoots grow, peg the shoots down to the soil, then later on the plants will be a mass of vivid colour. If among the seedlings there is any specially choice kind you wish to grow again, lift the plant in September, place it in a pot, cut its shoots well back, and store on a shelf in a heated house to yield cuttings in spring.

Zea (Indian Corn or Maize).—The Indian Corn in its green-leaved or ordinary form is of no value as a garden plant. There is, however, a variety of it with variegated leaves that is a very attractive plant which is much used for bedding purposes in summer. Plants of it dotted about a bed of violas, tuberous begonias, and other dwarf plants, produce a graceful and pleasing effect. It has to be raised from seeds sown in gentle heat in March, the seedlings being grown in pots till May, then hardened off and planted out in June. Nat. Ord. Gramineæ (Grass family).

Zinnia.—The Zinnia in its various forms is one of the showiest of half-hardy annuals for garden decoration in summer. Their brilliant blossoms make a brave display of colour when massed in beds or borders. To do this, however, they require generous treatment. They must be carefully grown from the first, and the soil be deep and rich to promote and maintain a healthy growth. Dig in plenty of rotten manure in spring, and choose a warm sheltered position for growing the plants. Sow the seeds thinly in a light compost in gentle heat at the end of March, and as soon as the seedlings are an inch high transplant them singly into small pots. Grow on a shelf near the glass until May, then harden off and plant out at the end of May 8 to 12in. apart. Plant



AN ARCH COVERED WITH HONEYSUCKLE.

The kind used in this instance is the

caved Honeysuckle (Louicera caprifolium). A

THE HARDY FLOWER GARDEN.

out in showery weather if possible; if not, water freely. Hoe the soil carefully between the plants, and when new growth begins actively give a dusting of guano occasionally in showery weather. Seeds may also be sown outdoors in May. In this case sow two or three seeds at intervals of a foot, and when the seedlings appear, reduce them to one in each place. The following are good all-round varieties: Z. elegans, single, mixed colours, 2ft.; Z. elegans flore pleno, double, various colours; flore pleno alba, white, double; flore pleno aurea, yellow or orange, double; flore pleno coccinea, scarlet, double; flore pleno rosea, rose, double; flore pleno violacea, violet-purple, double; pumila flore pleno, dwarf, double, various; pumila flore pleno alba, dwarf, double, white; pumila flore pleno coccinea, dwarf, double, scarlet; robusta flore pleno, tall, various, 21ft.; robusta flore pleno, double, white; robusta flore pleno coccinea, double, scarlet. Z. Haageana is a dwarf orange, single species growing 6in. high, and flore pleno is a double orange form of it. Natives of Mexico and members of the Daisy order (Compositæ).

Waitzia.—Half-hardy annuals, belonging to the Daisy order (Compositæ), and natives of Australia. Their flowers are valuable for cutting and drying for winter decoration, as in the case of other "Everlasting" flowers. The two best species are W. aurea, bright yellow, 18in.; and W. grandiflora, yellow, 18in. Both flower in August. Sow seeds in gentle heat in March, harden off the seedlings and plant out a foot apart in ordinary soil in sunny borders rate in May.

Wigandia.—Tropical half-hardy perennials, with handsome foliage, used chiefly in large gardens for intermixing
with other foliage plants for summer bedding. The chief kinds
used for the purpose are W. imperialis, 5ft.; W. macrophylla,
10ft.; and W. Vigeri, 6 to 8ft. All-have large leaves and form
handsome plants. Easily reared from seed sown in a temperature of 75 deg. in spring, grown on in pots, and planted or
plunged out in the beds in June. Young plants may also be
reared from cuttings in heat in autumn. Nat. Ord. Hydrophyllaceæ (Nemophila family).

CLIMBERS AND TWINERS.

Actinidia.—A genus of hardy deciduous climbing shrubs, belonging to the Camellia family (Ternstræmiaceæ). They are useful for covering sunny arbours, trellises and dead tree trunks. A warm sunny resition is indispensable, and the most suitable soil is a well-drained, light sandy loam. Plant early in autumn. No pruning beyond removing dead or sickly growth is required. Increased by seeds sown in sandy soil in a cold frame in autumn or early spring, also by cuttings with a heel of old wood attached, inserted in sandy soil in a cold frame in autumn. The species worth cultivating are A. Kolomikta, white, summer, leaves tinted red in autumn; A. polygama, white, fragrant, summer; A. volubilis, white, June. The latter is a very free grower. All natives of Japan.

Adlumia (Climbing Fumitory).—The only species cultivated of this genus is A. cirrhosa. It is a hardy biennial, a native of N. America, and belongs to the Poppy family (Papaveraceæ). The plant has very slender twining stems furnished with elegant Maidenhair fern-like foliage, and bears fleshy or white coloured flowers in summer. It is a charming plant for growing on a trellis against a warm wall, or for rambling over low shrubs on a sunny rockery. Seeds should be sown where required to grow in May to ensure plants for blossoming the following year. After the first year's flowering self-sown seedlings will appear annually.

Akebia.—Hardy evergreen climbing or twining shrubs, belonging to the Barberry family (Berberidaceæ). They are suitable for growing on trellises, arbours or arches, or in the Southern parts of the kingdom over laurels, hollies or other evergreen shrubs. Grow in sandy peat, loam and leaf-mould, and plant in October, or April or May. The best known species is A. quinata. This bears claret-purple flowers in racemes in spring. The other species is A. lobata, the flowers of which are pale purple and borne in January. The flowers of both species are very fragrant. Increased by divisions of the root in autumn, or by cuttings inserted in sandy peat in a cold frame in autumn. Natives of Japan.

Aristolochia (Dutchman's Pipe).—Hardy deciduous climber with rather handsome leaves and curiously formed purplish-streaked and yellowish flowers. It makes a capital

climber for quickly covering a south, south-west or a west wall; or even for clothing a pergola. It is a vigorous grower and altogether a most desirable climber. The only hardy species is A. Sipho, a native of N. America, and a member of the Birthwort order (Aristolochiaceæ). No special soil is required. Plant in autumn or early spring. The shoots must be kept trained, as they grow, to the wall. The only other attention needed will be to cut out dead and weak growths.

Berberidopsis (Coral Barberry).—An evergreen climbing and flowering shrub, a native of Chili, and a member of the Barberry family (Berberidaceæ). The only species grown is B. corallina. This has heart-shaped, spiny leaves, and bears coral red or crimson flowers in drooping clusters at the apex of the young shoots in summer. It is only adapted for culture against east or west walls in the warmer parts of the country. Requires a peaty soil. Plant in September or April. No pruning is needed. Increased by cuttings of the old wood furnished with a "heel," inserted in sandy peat in a cold frame in September; also by layering the shoots in summer.

Boussingaultia (Madeira Vine).—A hardy climbing perennial, belonging to the Spinach family (Chenopodiaceæ). The only species is B. baselloides, and this produces annual shoots upwards of 20ft. long, the leaves being fleshy, and the flowers small, white and fragrant. The roots are thick and fleshy. Suitable for covering trellises quickly in summer, or for trailing over dry banks. Plant in spring. Increased by tubercles removed from the axils of the leaves and planted in the soil. Native of Ecuador.

Calycanthus (Allspice Tree).—Hardy deciduous shrubs bearing fragrant flowers, natives of N. America, and belonging to the Nat. Ord. Calycanthaceæ. C. floridus (Carolina Allspice) grows 6 to 10ft. high, and bears crimson-maroon flowers, deliciously scented, in May. C. occidentalis (Western Allspice) grows 6 to 8ft. high, and bears large dark crimson flowers in June. This produces a less number of flowers than C. floridus, but they are nicely scented. Both do well in shady sheltered shrubberies where the soil is moist. C. occidentalis also makes a fine lawn shrub. We have seen it do well, too, on south and west walls. Plant in autumn. Propagate by layering the shoots in summe.

Calystegia (Bearbind).—A genus of climbing hardy perennials with fleshy roots, and popularly called Convolvuluses. They belong to the Nat. Ord. Convolvulaceæ. C. hederacea (Syn. C. pubescens) is a Chinese species with

pretty double rosy blossoms. C. sepium (Common Bindweed is a native weed, but there is a pretty variety of it called incar nata with rose-coloured flowers, and another called dahurica with rosy-purple flowers. C. Soldanella (Sea Bindweed) is a pretty pale-red, trailing species, which grows profusely on our sea-shore lands. C. sylvestris is synonymous with C. sepium C. sepium incarnata and dahurica are useful for covering trellises quickly. When in flower their beil-shaped blossoms are very effective. Their roots, however, need to be confined to a given space, otherwise they will spread and become a troublesome weed. C. hederacea requires a warm rich soil to do well. Here also the roots should be confined, otherwise they will creep along the soil and shoots will spring up all over the place. The smallest piece of stray root will grow and the shoots twine round the nearest plant and give no end of trouble. If this species be grown away from a trellis put a few pea-sticks for the shoots to twine round. The Sea Bindweed should only be planted on the rough rockery where the spreading roots can do no harm. The fleshy roots may be planted in autumn or spring. Increased by division of the roots in spring. The plant sometimes advertised as the American Bindweed is C. sepium incarnata.

Celastrus (Staff Vine).—C. scandens is a hardy, deciduous North American climber, belonging to the Euonymus order (Celastraceæ). Besides the common name above given it is also called the Climbing Waxwork or Bitter Sweet. The plant grows about 10ft. high, and bears yellow flowers in trusses at the end of the shoots in summer. In autumn the flowers are succeeded by orange-coloured, three-cornered, three-seeded berries, which are very ornamental. It will thrive in ordinary soil, and is an excellent plant for covering trellises, arches, pergolas, etc. Plant in autumn. Increased by layering the young shoots in September or October.

Clematis.—A genus of hardy climbing and non-climbing plants, belonging to the Buttercup order (Ranunculaceæ). One of the genus, C. vitalba, the Traveller's Joy of our chalky and limestone banks and hedgerows, is a well-known native species. This species is often grown in gardens for covering bare banks, rambling over low tree-stumps and trellises, and its roots are also used as a stock for grafting the choicer kinds on. There are two distinct types of Clematis, the non-climbing and the climbing. The non-climbers are either of a shrubby or herbaceous nature. C. Fremontii is a herbaceous species, grows 1 to 2ft. high, bears purple flowers in summer, and is a native of N. America. C. fusca has woody stems, 6 to 8ft. high, and bears reddish-brown flowers. Nat. N. Asia. C.

neracleæfolia grows 2ft. high, bears purplish hyacinth-like dowers, and is a native of China. The variety davidiana is uperior to the species; it has very large leaves, and bears avender-blue, deliciously fragrant flowers in autumn. ntegrifolia has herbaceous stems, grows 2 to 3ft. high, and pears blue flowers in August. Nat. S. Europe. C. ochroleuca s another herbaceous species from N. America, grows 2ft. gigh, and bears yellow and creamy flowers. C. recta is the ast of this section. It has herbaceous stems, 2 to 3ft. long, and bears white sweet-scented, double flowers in August. Nat. Europe. The foregoing dwarf kinds may be grown on ockeries or in the herbaceous border, where they will make ery interesting plants. They will succeed in ordinary soil, nd if of a chalky nature so much the better. In gardens leficient in lime it will be well to add some old mortar or halk to the soil before planting in autumn or spring. The perbaceous stems will die in autumn and should be cut off in vinter. Annual top-dressings of rotten manure in winter will oe of great advantage to the foregoing kinds.

Now we come to the climbing section, of which there are everal pretty species, also numerous beautiful hybrids. Among he species worthy of cultivation are the following: C. alpina, violet-blue to white, May, Europe, very pretty; C. Flammula Virgin's Bower), a rampant grower, flowers creamy-white, small, August and September, S. Europe; C. florida, creamywhite, summer, medium grower, Japan; C. lanuginosa, avender, etc., large-flowered, summer, China; C. montana Mountain Clematis), white, April and May, strong grower and ree bloomer, India; C. patens, mauve, May and June, very pretty, Japan; C. Viorna (Leather Flower), reddish-purple, summer, N. America; C. viticella, blue, purple or rose, summer, very graceful, S. Europe.

Next come the hybrids, which are divided into several sections according to their parentage. Thus in the patens section, which flower in May, and June, and yield their flowers on the old ripened wood, we have such charming varieties as Lady Londesborough, blush, barred with purple; Miss Batenan, white, chocolate-red anthers; Mrs. G. Jackman, white, parred with cream; and The Queen, mauve-white, all with lowers 4 to 6in. in diameter. Then we have the lanuginosa section, which flower twice in the year, June and in September, on short lateral shoots. These also bear large flowers. A ew of the best are: Beauty of Worcester, bluish-violet, white stamens, double at first, single later, very showy; Faery Queen, pale flesh, pink bars, flowers 6 to gin. across. Lady Caroline Nevill, blush, mauve bars, a charming kind; La France, violetpurple, dark anthers, large; Madame Van Houtte, white, very

fine; Henryi, creamy-white, one of the best; Purpurea elegans, violet-purple, light filaments, pink anthers; Reine Blanche, mauve, light bars, free. The Jackmani section is a very hardy and showy one, bearing its flowers on shoots of the current year's growth and blooming more or less throughout summer and early autumn. The chief kinds are: Jackmani, violet-purple, very free; Jackmani alba, white, Jackmani superba, dark violet-purple; Madame Edouard Andre, velvetyred, a rapid grower and free bloomer, the best of the section; Star of India, reddish violet-purple, red bars; Gypsy Queen, velvety-purple. The Florida section bears double flowers in summer on the old or ripened wood. The varieties are: Belle of Woking, silvery-grey; Countess of Lovelace, bluish-lilac, filaments white and anthers yellow; Duchess of Edinburgh, white and fragrant; Enchantress white, outer petal rose; John Gould Veitch, lavender blue; Lucy Lemoine, white. The Viticella section bears its flowers on the young shoots in summer and autumn, and are profuse bloomers. Lady Bovill, greyishblue; Mrs. James Bateman, pale lavender with dark veins, and Thomas Moore, pucy-violet, white stamens, are typical varieties of this section.

Last of all we have the hybrids of C. coccinea, a Mexican species, which is scarcely hardy enough to thrive well outdoors, except in mild districts. The hybrids, however, are quite hardy, and as they bear flowers of a tubular shape with swollen bases, they are quite distinct from the preceding types. C. coccinea bears flowers varying from crimson to scarlet, with yellow interiors in summer. Its shoots invariably die down in winter. The hybrids are: Countess of Onslow, violet-purple, with a band of scarlet down the centre of each petal; growth vigorous, flowers most useful for cutting. Duchess of Albany bears lovely bright pink flowers, softening to lilac-pink round the margin; very free grower and bloomer. Duchess of York has flowers of a pleasing pink tint; Grace Darling flowers of a bright rosy-carmine; and Sir Trevor Lawrence is a bright The flowers in each case make splendid subjects for indoor decoration.

Now comes the question of soil, position and planting. Clematises require a deep, rich, well-drained, loamy soil to do well. On very light or very heavy soils they are short-lived. As previously intimated it is helpful to their growth if chalk or old mortar can be freely added to the soil before planting. Where the soil is not naturally good dig it out to a depth of 3ft. and width of 4 or 5ft. for each plant, and fill up with two parts loam, and one part or equal proportions of rotten manure and leaf-mould. A sunny position is desirable in all cases, as when grown in the shade the plants do not flower well. The

best time to plant is in October and November, or in February and March, but as plants are usually sold in pots it does not signify if they are planted later. In planting simply remove the drainage from the ball, but do not disturb the roots. Press the new soil firmly round the ball and give a good watering afterwards.

As regards pruning, the species specially described as such. require no pruning keyond removing dead wood in February. This advice specially applies to C. montana. The less it is pruned the more freely it will flower. Coming to the hybrids. those belonging to the patens, florida, and lanuginosa sections flower on the old wood, therefore the only pruning they really need is the thinning out of weak, straggling or overcrowded shoots in February, and removing the tips of other unripened shoots in February or March. The Viticella and Jackmani sections flower on the young wood, and as it is necessary to ensure a good supply of this, the preceding summer's growth should be cut back to within 6in. of its base in November, or not later than February. In cases, however, where these kinds are climbing over trees or on high trellises, the dead or weak wood need only be removed. The object of pruning is to keep the plants neat-looking and ensure large flowers. The Coccinea hybrids only require weak growths to be removed and the unripened ends of other shoots to be cut off.

Now a word as to the many ways in which clematises may be turned to account in garden decoration. First of all, the hybrids may be utilised for clothing arches, trellises, pergolas, arbours or fences. For this purpose they are admirably adapted. The Jackmani and Lanuginosa hybrids are also well adapted for wreathing entrance porches or clothing pillars. Strong growers like C. montana and C. Flammula are specially suitable for lofty sunny walls, pergolas, or rambling over old trees. An old tree draped with C. montana, in flower in May, is a glorious sight. C. Jackmani, Henryi, etc., also make exceedingly effective climbers for rambling over low trees or bushes, dead tree stumps, banks, and so on. Then for growing in beds all the hybrids of Jackmanı and Lanuginosa are specially adapted. The shoots in this case have to be trained to a wooden or wire frame fixed over the bed. A good rich soil must be provided and the plants grown about 3 to 4ft. apart to produce a good effect. Clematises should never be planted against newly galvanised wire arches, as the free acid left on the latter destroys the young shoots. Wooden arches are undoubtedly the best for growing clematises.

Clematises should be given a liberal top-dressing of rotten manure every autumn, this being lightly forked in in spring.

An occasional dose of weak liquid manure will also be beneficial when plants are growing freely. Sometimes clematises dissuddenly. This is due, as a rule, to imperfect grafting, and the result of want of a perfect union between stock and scion Plants reared from layered shoots do not show this defect.

Clematises are readily increased by seeds sown in sand soil in a cold frame in autumn or spring. The seeds, however take many months to germinate. The hybrids of Coccine Jackmani, Lanuginosa, etc.; also Flammula, montana, etc. are among those that may be reared thus. The usual method increase is by grafting in spring on the roots of C. vitalba Viticella and Flammula. Layering the young shoots in summer and removing the rooted layers in October, is an easy method of propagation. Plants reared thus are longer lived that grafted ones. Propagation by cuttings is another method seldom followed. In this case the young shoots are cut winto eyes and placed in light soil in a heated propagator in March.

Clianthus (Glory Pea).—C. puniceus, the only species suitable for outdoor culture, is a pea-flowered shrub (Ord Leguminosæ), a native of New Zealand. It is extensively grown as a climber in greenhouses, but in the west amouthern maritime districts of England and Ireland it flourished exceedlingly well as an outdoor wall plant. In such favoure localities the plants grow 15 to 20ft. high and nearly as much in width. The flowers are large, borne in bunches, and crimso in colour. Of this there is a stronger-growing variety name Magnificent, and also a white-flowered one, of which we have received fine flowers from Devonshire. The Clianthus require a well-drained sandy loam and a south or west wall, we protected from cold winds. Plant in March or April. It creased by seeds sown in light soil in heat in spring; cutting inserted in sandy soil in spring.

Cobæa (Cup and Saucer Flower).—A half-hardy Mexica climber, belonging to the Phlox order (Polemoniaceæ). Constant seedlings of the planted outdoors in summer to form temporar coverings for trellises, etc. In the south and west it wis survive the winter outdoors; in fact, in mild winters plant have survived the winter in a London suburban garden. That pleasing green foliage and purplish cup-like flowers, wit saucer-like lobes. Its chief value is the rapidity of its growth this soon covering a large space. Sow seeds in heat if February or March, grow the seedlings on in heat till June then plant outdoors. If a mulch of fern, manure, or ashe

be placed at the base of the shoots in October the root may survive the winter.

Convolvulus (Bindweed).—This and the genus Calystegia are very closely allied to each other, the difference being merely a simple botanical one. Nat. Ord. Convolvulaceæ. arvensis (Small Bindweed), with white or pale pink flowers, is a troublesome native weed, but when planted in stone vases it makes a showy trailing plant. C. cneorum is a silvery-grey leaved species with pale rose flowers, and specially suited for trailing over the stones of sunny rockeries. C. mauritanicus (Blue Rock Bindweed) is a prostrate climbing plant from N. Africa, with blue flowers, a white throat and yellow anthers; suitable for sunny rockeries. C. tricolor (Syn. C. minor), known as the Dwarf Convolvulus, is an annual. suited for massing in beds or on the margin of borders. The flowers are varied in colour. Sow seeds of this species in the borders in September or April, and thin out to 8 or 12in. apart later on. The other kinds may be increased by dividing the roots in spring. For the Tall Convolvulus, see Ipomæa.

Cucumber family (Cucurbitaceæ). They are annuals, requiring to be raised in heat and planted out in June in well-manured soil. Their chief attraction consists of their quaintly-formed fruits. For flower garden decoration they are used for covering trellises, running up poles, old tree-stumps, trailing over banks, and even for covering a temporary arbour. Given a rich soil with plenty of manure and water and a warm position they will grow rapidly. The best sorts for garden decoration are the Pear, Bottle, Orange, Custard, Fig, Cherry, and Hen's Egg varieties. Most seedsmen supply them in collections.

Decumaria.—D. Larbara, the only species worth growing, is a hardy deciduous climber, with white fragrant, hydrangea-like flowers borne in June. It belongs to the Saxifrage family (Saxifragaceæ), and is a native of the United States. The shoots cling to the wall like those of the ivy, and are of more or less rambling growth. May also be employed in covering pergolas, tree-stumps, arbours, etc. Requires a warm, sheltered position and a rich loamy soil. Plant in autumn or spring. Increased by cuttings of half-ripened shoots in sandy soil in a cold frame in summer.

Eccremocarpus.—A Chilian climber, bearing pretty scarlet or orange-red tubular flowers in racemes opposite the leaves. The only species to be described here belongs to the Bignonia order (Bignoniaceæ). In the southern and mild parts

of the kingdom the plant is sufficiently hardy to survive the winter outdoors. Its branches may often be killed by frost, but the roots remain alive and new growth is put forth in spring. A mulching of rotten manure, litter or tree-leaves placed around the base of the stems in autumn will protect the roots. The plant is a most useful climber for quickly covering arches, trellises, arbours or pergolas, or for training to a wall. In all cases the soil must be well drained and not too heavy, and the position a sunny one. Easily raised from seeds sown in heat in February, the seedlings planted out in May to flower in July and onwards. Home saved seeds may be sown in a cold frame in autumn and the seedlings kept in the frame till spring, then planted out.

Hedera (Ivy).—A well-known genus of evergreen shrubby or climbing plants, belonging to the Aralia family (Araliaceæ). All the numerous forms in cultivation have originated from one species, H. Helix, a native of Britain and other parts of Europe. The species is too well known to need any descrip-The best known varieties with green foliage are Algeriensis, leaves yellowish-green, ovate or roundish; rapid grower, suitable for walls. Canariensis (Irish Ivy); leaves deep green, fine lobed; vigorous grower, suitable for covering walls, fences, or bald spots under trees quickly. Chrysocarpa leaves grev-green, three-lobed; rapid grower, suitable for Cuspidata minor; leaves glossy green, three-lobed purplish; adapted for walls. Deltoidea; leaves triangular; dark green; stems purplish; good kind for walls Dentata; leaves glossy, leathery, heart-shaped; vigorous grower; suitable for walls. Digitata, leaves finger-shaped dark green, varied with white; a first-rate kind for walls Donerailensis; leaves three-lobed, narrow, dark green in sum mer, purplish-brown in winter; good for walls. Gra cilis, leaves three-lobed, dull green in summer, changing to bronze in winter; stems wiry, purplish and graceful suitable for walls, tree-stumps, rocks, etc. Lobati major; leaves three to five-lobed; glossy green; vigorou grower; suitable for walls, fences or arches. Lucida; leave three to five-lobed, glossy green; rapid grower; suitable fo walls. Palmata; leaves three to five-lobed, dull green; strong grower; adapted for walls or fences. Purpurea; leaves leathery heart-shaped, purplish; strong grower; good for walls o arches. Rægneriana (Giant Ivy); leaves heart-shaped, large leathery, dark green; very strong grower; suitable for arches pergolas, tree-trunks or walls, one of the best. Sagittæfolia leaves three-lobed, triangular, dull green, changing to purple bronze in winter; stems wiry; free grower; good for walls. Th best of the variegated sorts are: Canariensis aureo-maculata, green and gold; canariensis foliis argenteis, green and silver; marginata, leaves green, edged with creamy-white and striped with pink in autumn; marginata rubra, leaves edged rosy-red in autumn; marginata aurea, leaves edged with orange-vellow or red; marmorata, leaves large, blotched with creamy-white; rhombea, leaves green, edged with creamy-white; variegata, leaves blotched and edged with creamy-white. Tree ivies (H. Helix arkorescens) are varieties of a non-climbing habit, which are grown as bushes or low standards. These are valuable for the winter decoration of beds. To ensure them retaining their compact habit they have to be grown continually in pots and plunged in the soil. There are golden and silver variegated varieties of Tree ivies as well as green-leaved forms with black or yellow berries. As regards the climbing sorts the greenleaved forms may be grown on any aspect, but the soil should be deep and rich, and will be all the better if freely mixed with old mortar. The ivy revels in a limy soil. To grow ivy well against walls or fences, trench the soil 2ft. wide and 3ft. deep and fork in plenty of rotten manure with it. The variegated sorts are best grown in poor soil-i.e., soil to which no manure has been added. A rich soil causes the variegation to lose its beauty and the leaves eventually to revert to a green Then, again, they require a warmer aspect than the green sorts, and do best against a south, south-west or west The variegated sorts are also suitable for planting at the base of vases, sides of stone steps, rambling over low treestumps, growing as edgings to borders, or trailing over rocks. The best time to plant ivy is in April. The plants should be purchased in pots, well watered an hour or so before planting, and then transferred to the soil without unduly disturbing the roots. Make the soil firm and loosely secure the shoots to the wall. The first season the soil must be kept well watered. To cover a wall or fence quickly procure plants a yard or so high and plant these a foot or 18in. apart, and train the shoots upwards. In this fashion a fence will be covered in a couple of years or so. Weak plants of green ivies that do not grow strongly after the first year should be cut down to a few inches from the soil in April. In due course the plants will put forth vigorous growth and make strong plants. Once the plants get established the shoots will cling of their own accord and then no training will be required. Once a year, in April, the green ivies grown on walls or fences should be closely trimmed, cutting off the large leaves and loose shoots. This will ensure an even, dense growth, and prevent snails and other pests linking under the foliage. We have previously remarked that the Irish ivy does well under the shade of trees. Where grass fails to grow ivy should be tried. Young plants should be put in a foot or so apart in April, and the shoots kept pegged down close to the surface. Before planting fork some rotten manure into the soil. Ivy also does well as an edging to shady borders. Plant in the same way as advised for under trees. Each year, in April, trim off the old leaves fairly close and then the foliage will grow more densely. Ivies are increased by cuttings of shoots 6in. or so long, inserted in ordinary soil in a shady border in autumn. The variegated sorts would root more surely in pots of sandy soil in a shady cold frame. Tree ivies are increased by grafting on the Irish ivy in spring.

Humulus (Hop).—Most people know the Common Hop (H. lupulus) as a farm plant only, but it is also occasionally grown in gardens for covering archways, tree-trunks, walls, arbours, etc. It has long rough, annual stems and leaves, and bears its panicles of green scaly flowers in early autumn. It loves a deep, moist rich soil and a sunny position, and being a vigorous grower will soon cover a large space. The roots may be planted in autumn or spring. There is also an annual species named H. japonicus, a native of Japan, and a variegated form of it named foliis variegatis with green and yellow foliage. Both grow 15 to 20ft. high. They are suitable for clothing fences, arches, trellises and pergolas quickly in summer. A warm position is desirable. Sow seeds in heat in March and plant out in May. There are, as in the case of the Common Hop, male and female plants, but their chief attraction lies in the foliage. The stems of the Common Hop require to be cut down to the ground in autumn.

pomæa (Morning Glory).—Half-hardy and hardy annual climbers, natives of Tropical America, and Mexico, and members of the Convolvulus order (Convolvulaceæ). I. hederacea grows 8 to 10ft. high, has ivy-like leaves and blue flowers. Of this species there are several varieties, namely, grandiflora, light blue; superba, blue and white; atroviolaceæ, violet and white; and limbata, rosy-purple and white. In fact, other sorts will be found in many seed lists. I. purpurea (also known as Convolvulus major) grows 8 to 10ft. high, has heart-shaped leaves, and bears purple flowers. There are several pretty forms of it, as alba, white; atropurpurea, dark purple; Burridgei, crimson; Dicksoni, blue; and rosea, pink. Another pretty species is I. versicolor, also known as Mina lobata. This has pale green foliage and red and yellow flowers borne in one-sided racemes. It grows 5 to 6ft. high or more. Other interesting species are I. Quamoclit, growing 6ft. high and bearing crimson flowers; and rubro-cærulea, bearing red flowers. All the foregoing kinds require to be grown in sunny positions against a trellis so that the shoots can twine round. We have also grown them in groups in the border, pea-sticks being used as a support for the shoots. Grown thus I. Quamoclit makes a charming border plant. Ipomæas are best reared in gentle heat in March, the seedlings transplanted into pots or boxes and planted out in the garden at the end of May. I. purpurea and I. versicolor may also be sown in the open garden in April, and will often do well treated thus.

Jasminum (Jasmine).—Well-known climbing shrubs, belonging to the Lilac order (Oleaceæ). J. officinale is the Common White Jasmine so generally grown as a climber on walls, pergolas, arches, etc., and which bears white fragrant flowers in summer. Alpine or grandiflorum is a large-flowered form of it. This species is a native of N. India. Another wellknown species is J. nudiflorum, a native of China. This bears bright yellow flowers in winter and is a most attractive plant for growing on a warm wall or trellis. J. fruticans is a European species with vellow flowers borne in summer. This is more suitable for trailing over a sunny bank or old tree-stump. J. revolutum is an Indian species with bright yellow flowers. It is a strong grower, makes a good wall plant, and does well near the sea. They will also succeed in good ordinary soil. Plant in autumn or early spring. The weak shoots of J. officinale should be freely thinned out in early spring, but not otherwise pruned severely. J. nudiflorum should be pruned annually in March, cutting away the shoots that have flowered, and leaving the young growths to form flowering shoots for next year. The other kinds need no pruning. Increased by cuttings of ripened shoots in sandy soil in a cold frame in early autumn; also by layering the young shoots in summer.

Lapageria (Napoleon's Bell).—The Lapageria is best known as a greenhouse climber, but as we have seen it grown outdoors in the Isle of Wight, Devon and Cornwall, we feel justified in including it in the present volume. It also succeeds outdoors in Ireland. L. rosea belongs to the Lily family (Liliaceæ), and is a native of Chili. It has long, flexible shoots, dark leathery green leaves, and bears waxy rosy, bell-shaped flowers more or less all the year round. It requires to be grown in a well-drained bed of sandy peat and leaf-mould in a shady spot, such as against a north-west wall. Slugs are partial to the young shoots, so they must be carefully guarded against. Plant in spring. Increased by layering the shoots.

Lardizabala.—The only species is L. biternata, and this is an evergreen climbing shrub from Chili. It has glossy green leaves and purplish, inconspicuous flowers borne in

December. Nat. Ord. Berberidaceæ (Barberry family). It is only hardy enough to grow on a south or south-west wall in the southern parts of the kingdom. Plant in May or September in sandy loam and peat. Increased by cuttings of the ripened growths in sandy peat in a cold frame in autumn.

Lathyrus (Everlasting Pea).—Here we shall only refer to the perennial species, the annual Sweet Pea being referred to elsewhere. The genus belongs to the Nat. Ord. Leguminosæ. The best known of the perennial species is L. latifolius, a native of Europe. This has a woody root-stock and annual stems growing 6 to 10ft. high. The type bears rosy flowers, but there are also two white varieties, albus and White Pearl, the latter bearing large pure white flowers of special value for There is also a pretty blush-tinted variety named The species is addicted to sporting—i.e., producing white or rose flowers on the same plant, and the ordinary white kind frequently reverts to the rose-coloured type. well-known species is L. grandiflorus, a native of Europe, and bearing large rosy-purple flowers in pairs. It is of dwarfer and more slender growth than L. latifolia. Other species are L. magellanicus (Lord Anson's Pea), a native of the Straits of Magellan, growing 3 to 5ft. high, and bearing bluish-violet flowers in medium-sized bunches; L. rotundifolius, a native of Persia, growing 5ft. high, and bearing large rosy-pink flowers in big clusters; L. splendens, a Californian species, growing 10 to 12ft. high, and bearing upwards of a dozen large carminered flowers in racemes in summer; L. undulatus, growing 3ft. or so high, with flowers of a lovely rosy-purple colour; L. tuberosus, a trailing species bearing rosy flowers very freely; and L. pubescens, a Chilian species growing 6ft. high and bearing lilac-purple flowers in profusion in June. All flower in summer. The Everlasting peas are excellent plants for clothing a sunny fence or wall, covering the sides of arches or arbours, trailing over banks, or for growing in bold masses in large borders, pea-sticks being provided as a support for the shoots. L. grandiflorus, L. rotundifolius and L. undulatus are specially suited for trailing on banks and rockeries. yielding flowers for cutting the variety of L. latifolius called White Pearl cannot be surpassed. It is a really beautiful kind. The roots of L. grandiflorus and L. tuberosus creep about under the surface, so these species should not be planted in choice borders. I. splendens, being somewhat tender, should be given a sheltered position against a warm wall. All the species require a rich loamy soil to do well. Strong roots may be planted in autumn or early spring, or plants may be reared from seeds in gentle heat in spring, and the seedlings



A PRETTY GARDEN SCENE.

Here the beautiful lawn is not disfigured by geometrical leads. Borders fringe the groups of notices and shrubs, and hardy flowers are grown therein. A more pleasing, beautiful and artistic effect is therefore obtained. See remarks on n. 3.



ORANGE-BALL TREE (BUDDLEIA GLOBOSA).

An interesting Flowering Shrub. See p. 374.

planted out in May to flower the following year. Many of the species reproduce themselves freely from seed, and seeds may be sown in the open ground in April. Seeds of the white varieties do not always reproduce themselves true to colour. To ensure a succession of bloom, remove the spent flowers, so that seed-pods cannot form. Increased also by division of the root in spring.

Loasa.—There are several species of this genus, but the only one we shall refer to here is L. laterita, a Chilian twining annual. This has shoots 8 to 10ft. long, and foliage furnished with stiff stinging hairs. The flowers are coral red, rather curiously formed, and borne in August. This plant may be grown in the open border in ordinary soil, pea-sticks being provided for support, or on a sunny trellis. Easily reared from seeds in heat in spring and the seedlings planted out in June. A half-hardy annual, belonging to the Nat. Ord. Loasaceæ.

Lonicera (Honeysuckle).—A genus of hardy, deciduous and evergreen climbing and dwarf shrubs, noteworthy for the delicious fragrance of their flowers. They belong to the same order as the Guelder Rose (Caprifoliaceæ). The climbing species are favourite plants for covering arches, porches, trellises, arbours, pergolas, walls and fences, tree-trunks, etc., and the best kinds for this purpose are: L. Caprifolium (Goatleaf Honeysuckle), a native of S. Europe, and naturalised in Cambridge and Oxfordshire; flowers yellowish, very fragrant, borne in May and June; a vigorous grower and one of the best. L. flava, a North American species, with bright yellow flowers, very fragrant, and a moderate grower. L. fragrantissima, a Chinese species, bearing creamy-white flowers in January and February; very sweet. L. grata, an American species of vigorous growth, bearing white flowers with a purplish tube in May; very fragrant. L. japonica is a Japanese species, with deep, shiny evergreen foliage, and white and red flowers borne in pairs during the summer. Aureo-reticulata, with leaves netted or marbled with yellow, is a well-known variety of the latter species, and so is flexuosa, a purplishstemmed and yellow-flowered kind, usually classed as a separate species. L. Periclymenum (Woodbine) is the Wild Honeysuckle of our hedgerows and woods. This species also makes a good garden plant. There are three varieties of it, which are largely grown, i.e., the "Late Dutch" (serotina), which bears reddish flowers in autumn; the "Dutch" (belgica), a strong grower, with flowers red outside and yellow within; and the "Oak-leaved," which has oak-like foliage. L. sempervirens (Trumpet Honeysuckle) is a North American species with evergreen foliage and flowers, scarlet outside and yellow within. This flowers in summer, but is only hardy in mild districts. Last of all is L. tatarica, a native of Tartary. is a very hardy and free-growing climber, bearing rosy flowers in spring. We now come to the bush or non-climbing kinds. Of these the Fly Honeysuckle (L. Xylosteum), with creamywhite flowers, succeeded by scarlet berries, is the best known. There are varieties of it with white, black and yellow berries. This kind is suited for growing in the mixed shrubbery. Alberti, a native of Turkestan, grows 2 to 3ft. high, forms a neat bush, and bears fragrant rosy-lilac flowers in June. There are many other species, but those named are the best. In growing the climbing species bear in mind that they love a deep, rich soil and plenty of sunshine to encourage them to grow and flower freely. Attention must also be paid to pruning. In February the old and weak wood should be freely thinned out, leaving the young shoots (last year's growth) untouched. The bush kinds only need to have dead or weak growths cut away. Plant in autumn. Increased by cuttings of shoots inserted in sandy soil in a cold frame in autumn; also by layering shoots in summer.

Lycium (Box Thorn).—Two species of this genus are grown in gardens as climbers for walls and porches. They belong to the Potato order (Solanaceæ). The best-known species is the "Duke of Argyle's Tea Tree" (L. halimifolium), better known as L. europæum. This bears violet-red flowers in summer, is of more or less erect growth, and furnished with spines. Is often seen covering porches, walls and fences and growing in garden hedges. A native of S. Europe. The other species is L. chinense (Box Thorn), a native of N. Asia, with slender stems and purplish or violet-red flowers. Both species bear orange-red or scarlet berries in autumn. are suitable for covering arches, pergolas, or fences quickly. They are deciduous. Plant in autumn in ordinary soil. In creased by suckers removed in autumn; by cuttings inserted in sandy soil in a cold frame in October; by layering in summer.

Maurandia.—A genus of half-hardy climbing perennials, belonging to the Nat. Ord. Scrophulariaceæ, and natives of Mexico. M. barclayana bears pretty white and blue flowers in summer, and grows 3 to 5ft. high. M. erubescens (Syn. Lophospermum erubescens) has rosy-white flowers borne in summer; and M. scandens (Syn. Lophospernum scandens) purplish-violet flowers borne in summer. The two latter grow 5 to 6ft. high. These pretty climbers are suitable for covering sunny trellises or low walls in summer, also for planting in

vases where trailing growth is required. Ordinary soil. Increased by seeds sown in heat in March, hardening off the seedlings in June and planting out. Being perennials, cuttings may be taken from the young shoots in August, rooted in sandy soil, and wintered in a warm greenhouse.

Menispermum (Moonseed).—M. canadense is a hardy deciduous climbing shrub, a native of Canada, and a member of the Nat. Ord. Menispermaceæ. It is a rapid-growing plant with large kidney-shaped leaves and yellowish flowers borne in drooping racemes in summer. Its chief beauty lies in its foliage, and its value in the garden for the rapidity with which it will cover arbours, trellises, etc., especially those in shady spots, with foliage. Plant in autumn in ordinary soil. Increased by seeds sown in sandy soil in a cold frame in spring; by cuttings inserted in gentle heat in spring; also by division of the roots.

Passiflora (Passion-flower).—Few hardy climbers are more beautiful than the blue Passion-flowers (P. cærulea). which originally came from Brazil. This species is not only beautiful when in flower, but also particularly attractive when laden with its golden, egg-shaped, fragrant fruit in autumn. the South it grows flowers and fruits freely, on a warm wall, and frequently so also on arches, arbours and tiellises. Its white variety, Constance Elliot, is equally as hardy and showy. To grow it really well plant in a good bed of a mixture of loam, peat and leaf-mould. Very good results, though, may be obtained by planting in good ordinary soil. Plant in early spring. This plant is apt to grow somewhat straggly. To obviate this make a point of cutting away entirely all weak shoots and shortening the strong ones of the preceding year to 6in. or a foot from their base in February. This will encourage new growth and ensure plenty of flowers. Increased by cuttings of young shoots 4 to 6in. long, inserted in sandy soil in a cold frame in spring or summer.

Periploca (Silk Vine).—P. græca is a hardy deciduous twining or climbing shrub, with small greenish-black flowers possessing a by no means pleasing odour. It is a native of S. Europe, and belongs to the Asclepias family (Asclepiadeæ). The Silk Vine is a rapid grower and quickly covers an arbour, pergola or trellis with a dense mass of foliage. We do not recommend it to be grown in small gardens. The stems die back in winter, hence these require to be cut back annually to live wood. Plant in ordinary soil in autumn. Increased by cuttings inserted in sandy soil in a cold frame in summer, or by layering the shoots.

Polygonum (Climbing Knotweed).—A genus of erect or climbing shrubby perennials, belonging to the Rhubarb order (Polygonaceæ). The climbing species are P. baldschuanicum, a native of Bulgaria, growing 15 or more feet high, with wiry stems, and white flowers borne in large panicles in summer, and P. multiflorum, a Japanese species, also white-flowered. The former is a splendid climber for quickly covering large arches, pergolas, dead tree-trunks, etc., and the latter low walls, fences or tree-stumps. Plant in autumn or spring in good ordinary soil. Increased by layering the stems in autumn, also by division in autumn or spring.

Schizophragma (Climbing Hydrangea).—S. hydrangeoides is a Japanese deciduous climbing shrub, with white or
flesh-coloured flowers similar to those of a Hydrangea. It is a
very beautiful free-flowering shrub, with ivy-like shoots furnished with ærial roots that cling to a wall. A member of the
Rockfoil order (Saxifragaceæ), and quite hardy in the South of
England. Plant in autumn in good sandy loam enriched with
decayed manure. A south or south-west wall is the best position for it. No pruning is needed beyond shortening shoots
that grow out of bounds. Increased by cuttings of half-ripened
shoots in sandy soil in gentle heat in summer.

Smilax.—Hardy evergreen or deciduous climbing shrubs, belonging to the Lily order (Liliaceæ). The most noteworthy species are S. aspera (Prickly Ivy), growing 5 to 10ft. high, a native of S. Europe, with ivy-like leaves, prickly stems, and whitish, fragrant flowers borne in July; S. Bona-nox, a North American deciduous species, 5 to 10ft. high, prickly-stemmed, and greenish-white flowers borne in June; and S. laurifolia, an evergreen species from N. America, with leathery, laurel-like leaves. There are a number of other species, but those named are the best. These shrubs are specially suitable for covering walls, tree-trunks, or any similar purpose to that for which ivy is adapted. They will succeed in ordinary soil, and should be planted in autumn. Increased by seeds, layers and division of the roots.

Solanum (Potato Tree).—A genus containing the Potato, Tobacco, Tomato, etc., and also the two following pretty flowering shrubs. Nat. Ord. Solanaceæ. S. crispum is a half-hardy deciduous shrub, growing 10 to 12ft. high, and bearing fragrant bluish, potato-like blossoms in summer. This species may be grown as a bush in the open in the South. In less warm districts it should be grown against a south wall S. jasminoides is a S. American climber, with white and blue-tinted flowers borne in August and September.

The variety floribundum flowers more freely. This is a pretty climber for a south wall. Both should be planted in sandy loam and peat or leaf-mould in early autumn. S. crispum, if grown against a wall, will require to have its shoots pruned in closely in autumn or early spring. Increased by cuttings of side shoots inserted in sandy soil in a cold frame in summer.

Stauntonia.—S. hexaphylla is a more or less hardy evergreen climber, bearing white sweet-scented flowers in summer, and a member of the Barberry order (Berberidaceæ). It is suitable for outdoor culture in mild districts, and then must be grown against a warm wall in sandy loam. Plant in May and September. In winter cut away dead or weak growths. Increased by cuttings of firm shoots in sandy soil in a cold frame in summer.

Tecoma (Trumpet Flower).—Hardy evergreen climbing shrubs, belonging to the Bignonia family (Bignoniaceæ). T. radicans is a North American species of vigorous growth, bearing reddish-scarlet tubular flowers in corymbs during the summer. When well established, as in the case of old specimens, it flowers profusely grown on a lofty south wall. Grow in sandy loam on a south wall, and plant in early autumn. In mild districts it will do well on a pergola. No pruning required beyond thinning out weak shoots. Increased by cuttings of ripened shoots in gentle heat, also by layering.

Tropæolum (Nasturtium; Flame Flower).—The Tropæolums belong to the Geranium order (Geraniaceæ), and are annual or perennial climbers. The annual species are T. majus (Tall Nasturtium); T. lobbianum; and T. aduncum (Canary Creeper). T. majus is a native of Peru, and grows 6ft. high or more, and bears showy flowers or various shades of red, yellow, orange, terra-cotta, etc. There are single and double-flowered forms of it. Many of our leading seedsmen have beautiful strains of Tall Nasturtiums in many charming shades of colour. A well-known hardy species for clothing walls and fences in summer. T. lobbianum is a native of Columbia, has slightly hairy foliage, and bears yellow, scarlet or crimson flowers. Spitfire is a showy variety, with scarlet flowers and purplish foliage. This also is a fine kind for covering walls, fences, or trellises in summer, or for draping over the sides of vases, etc. This species and T. majus may also be used for growing up the bare stems of standard roses. T. aduncum (Canary Creeper) is a native of Peru, has prettily-cut foliage, graceful stems and lovely canary-yellow flowers. A popular species for trellises, window-boxes, etc.

Does best in partial shade. The perennial species are four. T. pentaphyllum is a native of Buenos Ayres, has tuberous roots, purplish stems and crimson and purple flowers. T. polyphyllum (Yellow Indian Cress) is a trailing Chilian species with tuberous roots, glaucous foliage, and yellow flowers spotted with red. T. speciosum (Flame Flower) comes from Chili, has downy slender stems and brilliant scarlet flowers borne in late summer. This beautiful climber is seen to the best advantage clothing the walls of cottages, etc., in Scotland and in many parts of Ireland. The other species is T. tuberosum, a native of Peru, tuberous-rooted, and bearing lovely scarlet and vellow flowers in late summer. With regard to the culture of these beautiful climbers, the annual species may be raised from seeds sown in the open ground in April, or in heat in March, and the seedlings planted out in May. member that T. majus (Tall Nasturtium) and T. lobbianum require a sunny position, and T. aduncum (Canary Creeper) a partially shaded one. Ordinary soil will suffice. In addition to growing the foregoing on walls and fences, they may also be grown at the base of evergreen shrubs, and allowed to scramble as they please among the branches, in this way producing a pretty effect when in blossom. The Tall Nasturtium also looks very attractive when its shoots are allowed to trail over slopes or rocks. The perennial tuberous-rooted kinds especially T. pentaphyllum, which grows 8 to 10ft. high, may be grown on a sunny trellis or pergola, and T. polyphyllum and T. tuberosum on a large sunny rockery or bank, where their shoots can ramble at will. The tubers of T. pentaphyllum and T. polyphyllum should be planted in loam and leaf-mould in April; plant them 6in. deep. Those of T. tuberosum should be planted at the same time, but in ordinary, not The latter should be lifted in October and stored in sand in a frost-proof place, but those of the other species may be left in the ground, merely protecting the soil with a mulch of littery manure in winter. T. speciosum is rather dainty about its requirements. In the first place, the site must be a cool one, such as the base of a north wall, or on the northern side of an evergreen hedge. The soil must also be moist and be composed of two parts good sandy loam and one part of equal proportions of peat, leaf-mould and sand. The fleshy roots should be planted 6in. deep in March. For the first year or so the growth will be very slow, but once the plants get established they will grow and flower most profusely. Great patience is needed in the culture of this plant. Each autumn mulch the bed with a thin layer of rotten manure. When grown against a wall a trellis should be provided for the shoots to twine round. This glorious climber is seen to the best advantage when its shoots are creeping among the branches of an evergreen hedge. It is useless trying to grow it on hot dry soils or in sunny positions. The tuberous-rooted kinds may be increased by division of the tubers, and T. speciosum by division of its roots in autumn. All the perennial species, too, may be increased by cuttings of young shoots in sandy soil in gentle heat in spring or summer. T. lobbianum and its varieties may also be increased in a similar way.

Vitis (Vine; Virginian Creeper).—There are several species of the Grape Vine family adapted for clothing walls, arbours and pergolas. V. vinifera purpurea has deep purple foliage. V. heterophylla variegata, a native of Japan, has its leaves beautifully mottled with white and pink, and is a charming plant to grow on a sunny rockery or low wall. V. Coignetiæ is a Japanese species, also with large leaves, which assume a deep crimson tint in autumn. V. californica is a Californian species of vigorous growth, with roundish leaves that change to a crimson tint in autumn. The two latter species make splendid plants for clothing the supports of pergolas, or for covering arches. These deciduous climbers should be planted in autumn in good rich soil, and the preceding year's shoots should be spurred back to two eyes in January, like ordinary vines. The well-known Virginian Creeper, or Ampelopsis, is now included in the present genus, and we are referring to it here. V. quinquefolia (Syn. Ampelopsis hederacea) is an old inhabitant of English gardens, having been cultivated here since 1629. It is a most cosmopolitan plant, thriving equally well in the most congested town back yard or suburban and country garden. Its growth is most rapid, its shoots are more or less self-clinging, its foliage of a pleasing green shade in spring and summer, and of a rich tint in autumn. For covering walls quickly, draping garden walls or fences, or rambling over arches, etc., there is no plant to equal it. Its native home is N. America. Another species which is nearly as extensively grown is V. inconstans (Syn. Ampelopsis Veitchii, or tricuspidata). has smaller and less divided leaves than V. quinquefolia, also finer shoots, which cling more closely to the walls than those of the last named. The leaves of this species vary a great deal in shape, the younger ones being almost entire, while the older ones are larger and three-lobed. This species is less hardy than the common one, and only succeeds well on walls having a warm aspect. The leaves, moreover, do not assume so rich a tint as those of V. quinquefolia. Both succeed in good ordinary soil. In poor or heavy soils dig out a hole 3ft.

square and deep for V. inconstans, and fill it with a compost of two parts loam and one part of equal proportions of rotten manure, leaf-mould and grit. Planting may take place in October, February or March. For the first year or so growth will be slow, and any shoots that form will require to be nailed to the wall. Once they get a start, however, they will soon make headway and take care of themselves. We should add here that these creepers will not cling satisfactorily to painted or stucco walls. Future treatment consists of annually cutting back all loose shoots in January or February. Both species may be reared from imported seeds sown in light soil in moderate heat or a cold frame in spring; by cuttings of shoots 6 or Sin long, inserted in pots of sandy soil in a cold frame in September; in similar soil under a handlight outdoors; or by layering the shoots in autumn. The cuttings should be left in their pots or beds till the following autumn, then be planted out. V. heterophylla, Coignetiæ, and californica are increased by cuttings or eves of ripened wood in heat early in the year.

Wistaria (Chinese Kidney Bean Tree).—The Wistaria is one of our most beautiful hardy, flowering, climbing shrubs. The common species (W. chinensis) has been grown in England for a long period, and very large plants of it are to be seen about the country. When clothed with its pretty cut foliage and its shoots laden with clusters of pale purple pea-like blossom it is a most beautiful object. It comes from China, belongs to the Laburnum order (Leguminosæ), and is a vigorous grower. Its growth for the first few years is very slow, but once it is established it makes great headway and covers a large area. There is a white and a double-flowered form of it, but neither is so good as the type. There are two other species. W. multijuga is of Japanese origin, and bears pale lilac-purple flowers in racemes 2 to 3ft. long. W. frutescens is an American species of less vigorous growth than the others. It bears bluish-purple flowers. All the foregoing kinds may be grown against a south-west wall, or in mild districts on pergolas or dead treestumps. Wistarias like a rich, deep loamy soil, freely mixed with leaf-mould and rotten manure. Plant in autumn. Wistarias are often grown as standards, and very pretty they look. The strong young shoots growing against walls should be trained in to their full length, and all weak ones shortened to 2in. in winter. It is also advisable to spur in the weak growths of those trained on arbours. Increased by layers.

PART III.

TREES AND SHRUES.

HARDY FLOWERING KINDS.

Abelia.—A genus of fragrant-flowered, half-hardy shrubs, natives of China and Japan, and belonging to the Honeysuckle family (Caprifoliaceæ). In the British Isles they require to be grown against a south wall, and even then may only be relied upon to succeed well in the milder parts of the kingdom. Abelias thrive best in sandy peat and loam, and should be planted in October or March. The shoots should be trained thinly to the wall, and it is a good plan to thin out those shoots that have flowered directly after blooming. Propagation is effected by cuttings of shoots removed with a "heel," and inserted in pots of sandy peat in a cold frame in autumn, or by layering the shoots in August. The chief species are A. chinensis (Syn. rupestris), pink, autumn, 4ft.; A. c. grandiflora, rosy-white, autumn, 4ft.; A. floribunda, rosy-purple, March, 3ft.; A. serrata, pale red, 3ft.; A. spathulata, white and yellow, 3ft.; A. triflora, yellow and pink, Sept., 3ft.; A. uniflora, pink and white, 3ft. The first is a deciduous and the rest evergreen species.

Æsculus (Horse Chestnut; Buckeye).—A genus of beautiful hardy deciduous flowering trees and shrubs, belonging to the Natural Order Sapindaceæ. The Horse Chestnut (Æ. Hippocastinum) is a native of S.E. Europe, and when in blossom in April and May there are few trees to equal it in attractiveness and beauty. It makes a handsome tree grown singly on the lawn, or in association with others in the shrubbery, or as an avenue tree. In good soil and favourable positions it attains a height of 70 to 80ft. The flowers are borne in terminal racemes, and are white, tinged with red or pink. There are several varieties of it-Album flore pleno. white, double; foliis variegata, leaves variegated with yellow; and lanciniatum, with fern-like foliage. Another showy and handsome species well suited for small gardens because it is a less vigorous grower, is Æ. carnea. This grows about 20ft. high, and bears rich scarlet flowers in June. Æ. californica may be described as a shrub rather than a tree. It grows 12 to 15ft. high, and bears white or rose-coloured

fragrant flowers with orange anthers in May. Suitable for the mixed shrubbery. Another pretty shrubby species is the Red Buckeye (Æ. Pavia). It grows 10ft. high and bears red flowers. The varieties pendula (weeping) and laciniata (cut leaved) are also worth growing. Æ. parviflora grows about 4 to 6ft. high, bears pinkish flowers in July, and forms a neat and showy shrub for small borders. Natives of the United States. There are very many other species described in books under Æsculus and Pavia, but the foregoing are those most worthy of culture. All the species mentioned will succeed in any ordinary soil, peat, clay and sand excepted. Plant in autumn. Increased by seeds sown 3in. deep in ordinary soil in March; by layering the shoots in autumn; budding choice kinds on the Horse Chestnut in summer, or grafting in spring.

Amelanchier (Snowy Mespilus; June Berry).—Hardy flowering trees or shrubs, belonging to the Rose family (Rosaceæ). All the species mentioned below are deciduous. The best of the two species is A. alnifolia (Syn. A. canadensis), a native of Canada. The specimens grown in England vary from a few feet to 40ft, in height. In spring the young foliage is of a brownish-grey tint, while in autumn the colour of the dying foliage is of a golden-yellow tint. In April the snowywhite blossoms appear in great profusion and produce a most striking effect. This species is well suited for the mixed shrubbery or as a specimen tree on the lawn. thoroughly hardy tree, and will succeed in almost any soil. The other species, A. vulgaris, is a native of Southern Europe, grows about 12 to 16ft. high, and, like the Canadian species, bears a wealth of white flowers in April and May. This kind is best suited for the mixed shrubbery, where it will form a more or less straggly bush. As said before, any soil will suit the Amelanchiers, except perhaps a very heavy one. Both are increased by seeds sown in ordinary soil in early spring; by cuttings inserted in a shady spot outdoors in autumn; by layering the branches in October; also by grafting in March on the hawthorn or quince.

Andromeda (Wild Rosemary).—Only one true species of this genus is grown, and this is A. polifolia, a dwarf, evergreen flowering shrub, a native of Britain and Ireland. It grows about a foot high and bears pinkish-white flowers in August. A pretty shrub for the margins of beds planted with other peat-loving shrubs. Would do well in the bog garden, also where there is plenty of moisture. Plant in autumn in large masses. Increased by seeds sown in moist peat in a cold frame in autumn; also by layering in September. Nat.

Order Ericaceæ (Heath family). For other species of Andromeda see Pieris.

Arctostaphylos (Bear-berry).—Dwarf trailing evergreen or deciduous shrubs adapted for rockery cultivation. Members of the Heath family (Ericaceæ). A. Uva-ursa (Bearberry) is a native of Britain, and bears rose-coloured flowers in summer and bright red globular berries in autumn. A. alpina (Black Bear-berry) is of small growth, deciduous, and bears white flowers in spring and black berries in autumn. Native of Scotland. Both will thrive in ordinary soil on a sunny rockery. If peat can be provided so much the better. Plant in autumn or spring. Increased by seeds or layers.

Berberis (Barberry).—Hardy deciduous and evergreen flowering shrubs. Nat. Ord. Berberidaceæ. The genus of shrubs formerly known as Mahonia is now merged in that of Berberis. The chief evergreen species are B. Aquifolium, B. Darwinii, B. empetrifolia, B. japonica, and B. nepa-There is also an evergreen hybrid named steno-The deciduous species are B. Thunbergii and B. vulgaris. B. Aquifolium has holly-like foliage, which assumes beautiful rich bronzy tints in spring and summer. This kind does well under the shade of trees. It has showy yellow flowers succeeded by purple berries; height, 3 to 6ft. Darwinii has oval spiny leaves, a neat habit, and bears a profusion of orange flowers in spring; height, 6 to 10ft. B. empetrifolia is a dwarf species, growing 1 to 2ft. high, and bearing yellow flowers in winter. B. japonica is a largeleaved species, bearing lemon-yellow flowers in early spring. It is somewhat tender and requires to be grown in a sheltered spot. B. nepalensis grows 4 to 10ft. high, has spiny foliage and yellow flowers borne on erect terminal spikes. A handsome species, requiring a sheltered spot. B. stenophylla is a hybrid between B. Darwinii and B. empetrifolia, has slender, interlacing, arching branches, which are studded in early spring with a wealth of yellow blossoms. B. Thunbergii is a dwarf deciduous Japanese species with spiny stems, and small leaves which change to a lovely red tint in autumn. The flowers are yellow and red, borne in April and succeeded by scarlet berries. B. vulgaris is a native deciduous shrub, growing 8 to 10ft. high, and bearing yellow blossoms, succeeded in autumn by orange-red berries, which are edible. There are varieties which bear purple, scarlet, yellow and white fruits, also one known as B. vulgaris foliis purpureis, which has purple-red leaves. The deciduous kinds should be associated with other evergreen shrubs and placed in a position where bright spring flowers are welcome. B. Darwinii

should also be given a prominent place. Barberries are not particular as to soil, but they will thrive and flower better in a good sandy loam. The evergreen species should be planted in September or October or in April, while the deciduous ones should be planted in autumn and winter. Bear in mind that large barberries do not transplant well. Barberries may be propagated by seeds obtained from ripe berries, and sown in the garden in autumn; by cutting off shoots removed with a "heel," and inserted in sandy soil outdoors in autumn; by layering the shoots in summer; also by offsets or suckers.

Bryanthus.—Hardy evergreen trailing shrubs, belonging to the Heath order (Ericaceæ). Being of lowly growth they are suitable for growing on rockeries or along the margins of beds devoted to peat-loving shrubs. B. empetriformis grows 6in. high and bears reddish-purple, well-shaped flowers at the extremities of the branches. B. erectus grows about a foot high, and bears red flowers. The former comes from N. America and the latter from Siberia. Both should be grown in sandy peat. Plant in autumn or spring. Increased by layering the trailing branches in autumn, or by cuttings inserted in sandy peat in a cold frame in autumn.

Buddleia (Orange Ball Tree).—The Buddleias are interesting flowering shrubs, but few of them are adapted for outdoor culture, and these only, as a rule, in warm, sheltered districts. B. globosa is the best-known species, this having been grown in English gardens since 1774. It grows about 10 to 15ft. high, has four angled stems, crenated leaves, hoary beneath, and bears its orange-coloured flowers in globular heads during May and June. It is a very distinct and handsome shrub, but unfortunately is liable to be injured by severe Native of Chili. Another charming species is B. variabilis. This is quite distinct from B. globosa. It has a woolly appearance, and bears its rosy-lilac flowers in terminal racemes at the ends of the shoots in July. The flowers are fragrant. Native of China. An improved variety of this valuable species has recently been introduced by Messrs. James Veitch and Sons, from China, under the name of The flower spikes are much larger and more brilliantly coloured, being of a violet-mauve tint, with an orange-yellow centre. B. albiflora is a new Chinese species of similar habit to B. variabilis, with pale mauve and orangeyellow flowers. B. globosa may be grown in sheltered positions in the shrubberies, or as a wall shrub. The other species do best, perhaps, against warm walls, but may also be grown in sheltered positions in the shrubbery. Ordinary soil, not too heavy, and well drained, will suit the foregoing. Plant in autumn or early spring. No pruning beyond cutting out dead wood in winter, or shortening a straggling shoot after flowering, is needed. Increased by cuttings of ripened shoots removed with a heel of the old wood attached and inserted in sandy soil in a cold frame in autumn. Nat. Ord. Loganiaceæ.

Cæsalpinia.—A hardy deciduous flowering shrub, a native of Japan, and a member of the Pea Order (Leguminosæ). C. japonica is the only species grown. The shrub is of spreading habit; the stems grow 6ft. or so high, and are armed with hard, curved prickles; the leaves are bipinnate and of a soft green colour; and the flowers are yellow, with red filaments and anthers, and borne in drooping racemes in early summer. May be grown in any good ordinary soil against a south or south-west wall or fence, or as a bush in the shrubbery, or on a bank. Plant in autumn. Increased by layering in summer.

calluna (Heather or Ling).—C. vulgaris is a British shrubby plant which grows in immense quantities on moors, commons and open spaces. It belongs to the Heath family (Ericaceæ). This species grows I to 3ft. high, and bears pink flowers in long spiky racemes in late summer. Of this there are several varieties: alba, white; Alporti, crimson; and flore pleno, double pink; also silver and golden-leaved kinds. Argentea, the silver-leaved kind, has silvery foliage in summer, changing to scarlet in autumn; and aurea has golden leaves in summer, changing to red in winter. The foregoing will thrive on stony banks or slopes, or on the margins of woodlands. Plant in autumn. Increased by seeds, cuttings, etc., as in the cases of Ericas (Heaths).

Caragana (Siberian Pea Tree).—Hardy deciduous flowering shrubs of somewhat straggly growth, and suitable only for growing on dry banks or in shrubberies in large gardens. They belong to the Pea order (Leguminosæ). C. arborescens is a native of Siberia, bears yellow flowers, and grows about 12 to 15ft. high. C. frutescens has greenishyellow flowers tinted with purple; height 2½ft.; C. microphylla, yellow, 2ft.; and C. spinosa, yellow, 6ft., with spiny stems, are the only others worthy of mention. Grow in ordinary soil and plant in autumn. All flower in May. Increased by seeds sown outdoors in April; layers in summer, and choice kinds by grafting on C. arborescens in March.

Carpentaria (Californian Mock Orange).—A half-hardy deciduous, flowering shrub, a native of California, and a member of the Saxifrage order (Saxifragaceæ). The only species is

C. californica, and this grows 6 to 8ft. high, has narrow pale green leaves, and bears fragrant white flowers in clusters in June and July. It requires a west, south-west or south wall, and a well-drained sandy soil, to succeed outdoors in the South of England. In cold districts it is doubtful if the shrub would thrive outdoors even with protection in winter. Plant in autumn. Increased by cuttings inserted in sandy soil in a cold frame in autumn; by suckers at the same period; also by seeds sown in sandy loam in a cold frame in spring.

Cassandra (Leather-leaf).—C. calyculata, better known as Andromeda calyculata, is a dwarf evergreen flowering shrub, growing 1 to 3ft. high, bearing white or pink tinged blossoms in April, and a member of the Heath family (Ericaceæ). It is a very pretty spring-flowering shrub, and well suited for country gardens. In its native habitat, Virginia, it grows in peaty swamps, therefore to grow it well here it should be planted in moist sandy peat and leaf-mould. The margin of a rhododendron bed would be a good place for it, or failing this the fringe of a shrubbery. Plant in September or May. Increased by seeds sown in sandy peat in a cold frame in spring, or layers in summer or autumn.

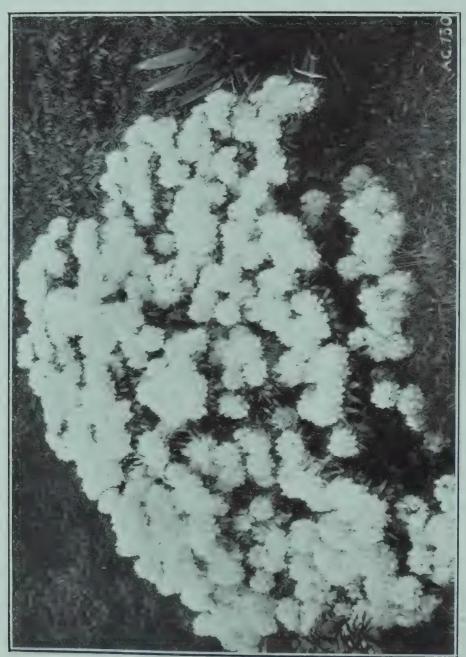
Cassia.—The only species of this genus adapted for outdoor culture in Britain is C. corymbosus, a native of Buenos Ayres and a member of the Pea order (Leguminosæ). This species is an evergreen shrub, growing 6 to 10ft. high, and bearing yellow blossoms in corymbs from August to November. The foliage is pinnate and glabrous or shining. Being a tender shrub it is best grown against warm walls, although we have seen it survive the winter in the open. In this case, however, the shoots die down, but young ones spring up the following season. It is also used occasionally for subtropical bedding in summer, the plants being lifted and wintered in a greenhouse. A sandy loam or peaty soil suits it best. Plant in spring Protect the base of the plants in winter with litter. Increased by seeds sown in heat in spring, also by cuttings of half-ripened shoots in heat in spring.

Cassiope (Himalayan Heather).—Dwarf evergreen shrubs, belonging to the Heath order (Ericaceæ). The principal species are C. fastigiata, white or pale red, May, 6in.; C. hypnoides, white and red, June, moss-like and creeping; C. tetragona, white, March, stems four-angled, 6 to 8in. C. fastigiata should be grown in a deep moist loam on a shady rockery. C. hypnoides requires to be grown in moist peat on a shady rockery, its creeping shoots being pegged to the surface. C. tetragona thrives in sandy loam and leaf-mould.



DWARF FLOWERING SHRUB (HYDRANGEA PANICULATA GRANDIFLORA).

See p. 394 for description and culture.



or peat and leaf-mould, and requires a partially shady spot. Plant in March or April These interesting little shrubs need plenty of moisture. Increased by layers in summer. C. fastigiata is a native of the Himalayas, and the rest of the Arctic regions.

Catalpa (Indian Bean).—Hardy deciduous trees, with handsome foliage and attractive blossoms. They belong to the Bignonia order (Bignoniaceæ). The best-known species is C. bignonioides, a native of N. America. This has large cordate leaves, and bears white tubular flowers speckled with violet, yellow and purple, in large racemes in July. Of this there is a variety named aurea, with golden leaves. Height 20 to 40ft. Other species are C. Bungei, greenish-yellow, spotted with red, a native of China, 8 to 10ft. high and somewhat tender; C. Kæmpferi, flowers yellow, spotted with brown, fragrant, and C. speciosa, white, large. For general cultivation C. bignonioides and its variety aurea are the only kinds we recommend. These thrive best in a well-drained loam. On heavy soils the growth is soft and sappy, and liable to be injured by frosts. With regard to position a sheltered one on a lawn is the best, as here the ample leafage and the attractive blossom are seen to the best advantage. Plant in autumn. Increased by seeds sown in sandy loam in a cold frame; by layering the shoots in summer; and by cuttings of the ripened growth in heat in spring.

Ceanothus.--Half-hardy evergreen shrubs, belonging to the Buckthorn order (Rhamnaceæ). The most noteworthy species is C. azureus, a native of Mexico, evergreen, growing 8 to 10ft. high, and bearing a profusion of bright blue flowers in trusses throughout the summer. Gloire de Versailles is a charming variety of the latter; and pallidus, pale blue, is another pretty variety. C. veitchianus, a native of California, with deep blue flowers, is also a very showy species. Then there is a white-flowered species, C. americanus, a native of New Jersey, which is also very showy and worthy of culture-These are first-rate wall shrubs, and grown thus their neat green foliage is attractive in winter, while in summer it would be difficult to imagine anything more beautiful than these shrubs when covered with a mass of lovely blue or white blossoms. In mild districts they often do well grown as bushes in the open. A south, south-west or west wall will suit ceanothuses well. Plant in autumn or spring in good ordinary soil that is sufficiently well drained to keep the roots dry and warm in autumn or winter. In April make it a practice to thin out weakly and sickly growth, and to shorten the preceding year's shoots that are not required to form new branches

to three or four eyes. Treated thus the plant will flower profusely. Increased by cuttings inserted in sandy soil in a cold frame in September; also by layering the shoots in summer or autumn.

Cercis (Judas Trce).—Hardy deciduous flowering and very slow-growing trees, with kidney-shaped leaves and peashaped flowers. Nat. Ord. Leguminosæ. The Judas Tree (C. Siliquastrum) grows about 15 to 20ft. high, and bears rosypurple flowers in spring before the leaves appear. There is also a white variety. Native of Western Asia. It has long been grown in this country, and makes a handsome and interesting tree to grow on the lawn. There are two other species, C. canadensis, a dwarfer kind than the preceding, with pale rose flowers; also C. chinensis, rosy-pink, free blooming, a native of China. C. canadensis (Redbud) is a North American species. They do best in a deep loamy soil, and should be planted in autumn. In the North the shelter of a warm wall is desirable. Increased by seeds sown in heat, also by layering the shoots in autumn.

Chimonanthus (Winter Sweet; Japanese Allspice).—C. fragrans is a deliciously fragrant and deciduous shrub, a native of Japan, and a member of the Nat. Ord. Calycanthaceæ. The brownish-yellow and purple flowers are borne on leafless shoots from December to March, and are most useful for cutting. It does best against a south or west wall, but we know of several instances of its thriving well as a bush in sheltered positions. Plant in good loam in autumn. The main shoots require to be trained evenly to the wall and, directly after flowering, all others should be shortened to an inch from their base. From these spurs new shoots will issue to bear flowers the following winter. Increased by layering the shoots in summer or autumn.

Chionanthus (Fringe Tree).—Hardy deciduous flowering shrubs, belonging to the Olive family (Oleaceæ). The N. American species, C. virginica, is an old inhabitant of British gardens. It grows 8 to 10ft. high, and in June and July bears long clusters of white flowers with fringed petals. A newer species from China is C. retusus, growing 5 to 6ft. high and bearing white fragrant flowers in May. Both are suitable for sheltered positions in the mixed shrubbery. Soil, a good deep, well-drained loam. If any pruning is required to keep the bushes in good shape, do it directly after flowering. Increased by cuttings of ripened shoots with a heel attached and inserted in a sheltered border in autumn; by grafting on the ash in March; layering in autumn.

Choisya (Mexican Orange Flower).—An evergreen shrub, a native of Mexico, and belonging to the Rue family (Rutaceæ). In the milder parts of the kingdom C. ternata does well as a bush in the open shrubbery, but in less mild districts the protection of a south or west wall is necessary. The flowers are white, fragrant, and not unlike orange blossoms. Summer is the flowering season. The foliage is of a glossy green colour and three parted. Plant in well-drained loam in September or April. Increased by cuttings inserted in a cold frame in September or by layering in autumn.

Cistus (Gum Cistus; Rock Rose) .- A genus of beautiful and very interesting evergreen flowering shrubs. Nat. Ord. Unfortunately they are not hardy enough to succeed outdoors except in mild parts of the kingdom. flowers are very beautiful, of a satiny texture, fragrant, and freely produced, but their individual beauty is of short dura-The Gum Cistus (C. ladaniferus), a native of Spain, bears white flowers in June, and grows 4ft. high. There are two pretty varieties of it, viz., maculatus, white with a dark spot at the base of its petals; and albiflorus, white with pale vellow spots. C. albidus grows 2 to 3ft. high, is a native of S.W. Europe, and bears purplish or rosy flowers with yellow spots at base in June. C. laurifolius hails from the same habitat, grows 4 to 5ft. high, and has white flowers with yellow spots on the base of the petals in summer. C. purpureus has reddish-purple flowers, spotted with deep purple, grows 2 to 4ft. high, and is a native of the Levant. C. crispus only grows about 2ft. high, has reddish-purple flowers in June, and is a native of S.W. Europe. There are many other species or hybrids described in books, but those named are in our opinion the best. These shrubs require to be grown against a south wall in well-drained sandy soil. They will not thrive on damp, heavy soils. We have seen them do well on warm sheltered banks. Spring is the best time to plant. In severe weather the plants should be protected with a straw bundle or a mat. Increased by seeds sown in light sandy soil in heat in spring, afterwards growing the seedlings on in pots till the following spring, then planting out. Also by cuttings with a "heel" of old wood attached, inserted in pots of sandy soil in a cold frame in August; likewise by layering the shoots in

Cladrastis (Yellow Wood).—Hardy deciduous flowering trees. They belong to the Pea order (Leguminosæ). C. tinctoria (Syn. Virgilia lutea) has elegant pinnate foliage, grows 20ft. high or so, and bears white pea-shaped flowers in drooping clusters during May. The foliage changes to a

rich yellow tint in autumn. This makes a handsome lawn tree. Native of N. America. C. amurensis is a native of the Amoor Valley, grows 6 to 8ft. high, and bears whitish-yellow flowers in dense spikes late in summer. Both do best in well-drained sandy loamy soils. Plant in autumn. Increased by seeds sown in sandy loam outdoors, also by root cuttings planted in spring outdoors.

Clerodendron.—Two species of this genus of flowering shrubs are cultivated outdoors in mild parts of the kingdom. Both are deciduous and belong to the Verbena family (Verbenaceæ). C. fætidum (Syn. C. Bungei) is a native of China, grows about 5ft. high, has heart-shaped leaves, and bears lilac flowers in August. We have seen it growing almost wild in a farmhouse garden at Buxted, in Sussex. It does well in sheltered gardens in the South. C. trichotomum is a native of Japan, grows 8 to 12ft. high, and bears white fragrant flowers late in summer. This species also requires a sheltered position and a sandy loamy soil liberally mixed with leaf-mould. Plant in autumn or spring. Increased by seeds sown in light soil in heat in spring, and the seedlings afterwards grown on for a year before planting out; cuttings of young shoots in spring in heat; suckers, removed in autumn; also by layering shoots in summer.

Clethra (Sweet Pepper Bush).—Hardy deciduous flowering shrubs, members of the Heath order (Ericaceæ), and adapted only for growing in boggy or peaty soils. C. alnifolia is a North American species, growing 3 to 6ft. high, with alder-like foliage and white fragrant flowers borne in feathery spikes in July and onwards. It is largely grown for forcing in hot-houses in winter. C. arborea is a native of Madeira, grows 8 to 10ft. high, and bears white flowers in August. C. canescens is a new hardy white-flowered species from Japan. The flowers are borne in panicles over a foot long. A most desirable species. All the foregoing should be grown in bog or peat and leaf-mould in moist, sheltered positions. Plant in autumn. Increased by seeds sown in peaty soil in a cold frame in spring; cuttings of ripened wood with a heel attached in a similar soil and position in autumn; layers in summer.

Colletia.—Evergreen shrubs, natives of Chili, and members of the Buckthorn order (Rhamnaceæ). These shrubs are very spiny, and on that account are only adapted for the shrubbery or hedges. They are not hardy enough to succeed outdoors except in the South and West of England. C. cruciata is a bushy species, about 4 to 5ft. high, and C. spinosa grows

6 to 10ft, high. Both bear small white flowers. Grow in a sandy soil and plant in autumn. Increased by cuttings of half-ripened wood inserted in sandy soil in gentle heat in spring.

colutea (Bladder Senna).—Hardy deciduous flowering shrubs of special beauty. C. arborescens, the only species worthy of note, belongs to the Pea order (Leguminosæ), and has pinnate leaves and yellow pea-like flowers borne in August. It is not suitable for small gardens, but in large gardens, especially those with a sandy soil, this shrub is well suited for planting in masses. It also does well on banks where few other shrubs will grow well. Plant in autumn. Increased by seeds sown outdoors, or by cuttings in ordinary soil in October. The flowers are succeeded by rose-tinted bladder-like pods, which are more or less attractive. Native of S. Europe.

Coronilla.—Hardy shrubs and perennials, belonging to the Pea order (Leguminosæ). C. Emerus (Scorpion Senna) grows 3 to 6ft. high, has pinnate leaves and reddish or yellow flowers borne in summer and autumn. It is a South European shrub, hardy in sheltered positions and in well-drained soils, and often retains its foliage all the winter. C. iberica is a native of Asia Minor, grows about a foot high, and has trailing shoots furnished with yellow blossoms in summer. C. varia has rose-coloured flowers in summer and spreading shoots. The two latter are hardy herbaceous perennials suitable for sunny rockeries. Both like a deepish well-drained soil. Plant in autumn or spring. Increased by seeds sown in sandy soil in a cold frame in spring; cuttings of young shoots in sandy soil in a cold frame in autumn; also by division in autumn.

Corylopsis.—Hardy deciduous flowering shrubs, belonging to the Witch Hazel order (Hamamelidaceæ). Two species are in cultivation and both produce their blossoms early in the year on leafless branches. C. spicata is the hardier of the two, and this comes from Japan. It bears yellow cowslipscented blossoms in drooping racemes in February, and grows to 4ft. high. The other species, C. pauciflora, also bears similarly coloured and fragrant flowers in March, and grows to 3ft. high. Both require a sheltered position in the front of the shrubbery, and to be grown in a well-drained loam. Plant in autumn. Owing to their early-flowering character and their fragrance they deserve a place in every garden where there is room to grow choice shrubs. Increased by layering in summer.

Cratægus (Thorn).—Hardy deciduous flowering trees, belonging to the Rose order (Rosaceæ). The May, Hawthorn, or Whitethorn (C. Oxycanthus) of our hedgerows is a wellknown species of this genus. Of this species, the Double White, Double Pink, and Double Scarlet (Paul's), and the Single Scarlet, are also well-known varieties, standard trees of these being grown extensively in suburban and country gardens. Then there is the famous Glastonbury Thorn (C. Oxycanthus præcox), which flowers in mid-winter. The double and the single scarlet varieties are very handsome and attractive trees when in flower in May and June, and should be grown more extensively in suburban gardens in place of the lime, poplar, and other unsuitable trees for such positions. In larger gardens, too, they are grand trees to grow singly on the lawn or in the shrubbery. C. Crus-galli (Cockspur Thorn) is another interesting tree, with white flowers, succeeded by large bright red, showy haws or berries. Its branches are furnished with long curved spines like a cock's spur, hence the common name. It grows about 10 to 12ft. high, and is suitable to grow as a standard in the shrubbery. The Scarlet-fruited Thorn (C. coccinea) is also a handsome tree, bearing large scarlet haws in autumn which are very attractive. The Tansy-leaved Thorn (C. tanacetifolia) has elegant foliage and bears vellow haws in autumn. Then there is the Evergreen Firethorn (C. Pyracantha), an evergreen shrub which is a popular favourite for clothing walls and fences, and, moreover, most attractive in autumn and winter, when furnished with bright scarlet berries. Its variety Lalandi is more compact growing and better suited for low walls. This shrub is frequently spoiled as regards its crop of berries by the erroneous practice of pruning the shoots in closely in winter. It is better to wait till June, then note which lateral shoots have the most flowers on them. Those with only a few blooms may be spurred in close, but those having plenty of flowers should be trained to the wall or The Firethorn also makes a capital shrub for arches, or for growing as a bush in the shrubbery. The other Thorns previously described do not require much pruning, only cutting out dead wood in winter and shortening an overgrown shoot here and there. All the species here described require a sunny aspect to ripen their growth. If grown under the shade of other trees they will not flower freely. The Evergreen Firethorn does best on an east, south, or west wall. Plant in autumn. Ordinary soil will suit all the species. Increased by seeds, the berries containing which should be placed between layers of land (stratified) in the open air for a year, then sown iin, deep in the garden in spring or autumn. When the seedlings are a year old transplant them 6in, apart in rows a foot asunder, and finally plant out two years afterwards. Also increased by budding in July and grafting in March on the Common Hawthorn.

Cyrilla.—A hardy evergreen flowering shrub, a native of Texas, and a member of the Nat. Ord. Cyrillaceæ. C. racemiflora is an elegant shrub, with slender angular branches and pure white flowers borne in racemes in summer. It grows 4 to oft. high, but as yet has not been grown much in this country. Ordinary soil. Plant in autumn.

Cytisus (Broom).—Hardy deciduous flowering shrubs, belonging to the Pea family (Leguminosæ). The native Broom (C. scoparius) is a well-known, vellow-flowered species which grows wild on sandy heaths and hilly wastes. It is a good shrub to naturalise on dry banks in company with gorse. For garden culture the following species, etc., are the best: C. albus (White Spanish Broom), grows 6 to 10ft, high, is of bushy habit, and bears a mass of white flowers in May and lune, a very pretty shrub. C. albus incarnatus bears wine-red flowers in profusion in May. C. Ardoini, a native of the Maritime Alps, is a dwarf shrub of tufted growth, growing a few inches high, and bearing yellow flowers in April and May. This species does best on a sunny rockery. E. nigricans is a very beautiful species, with golden blossoms borne in July. A native of Austria and growing 3ft. high. C. purpureus is also an Austrian species of trailing habit. It bears purple flowers in May. A good shrub to grow on banks or large rockeries. It is sometimes grown as a standard, grafted on a laburnum. C. præcox is a very pretty hybrid between C. albus and C. purgans. It has slender, wiry shoots, which are literally wreathed in creamy yellow flowers in May and June. Another charming hybrid is C. kewensis, the result of a cross between C. Ardoini and C. albus. It is of prostrate growth and bears creamy white flowers in May. Should be grown like C. Ardoini on a rockery. C. andréanus is a variety of C. scoparius, found growing wild in Normandy. It grows 6 to 10ft. high, and has deep golden flowers, with crimson or red centres. It flowers in June and is a very showy plant. The brooms will thrive in almost any soil, more especially those of a light or sandy character. On heavy clay soil they are short-lived. Plant in autumn. Brooms, especially C. andréanus, are apt to assume a straggly habit of growth when they get old. To obviate this make it an annual practice, just after flowering, to shorten the straggly old shoots so as to encourage plenty of young growth at the base. As regards propagation the Common Broom is easily reared from seed

sown freely where the plants are required to grow. The other kinds may also be reared from seed sown an inch deep in a border in autumn. C. andréanus readily reproduces itself from fallen seeds, but seedlings cannot be relied upon to come true from seed. May also be increased by cuttings of half-ripened shoots removed with a heel of old wood and inserted in sandy soil in a cold frame in autumn, and by layering the shoots in summer.

Dabœcia (Irish or St. Dabeoc's Heath).—D. polifolia (Syn. Menziesia polifolia) is a dwarf evergreen flowering shrub, a native of Ireland, and a member of the Heath family (Ericaceæ). It has heath-like foliage and drooping bell-shaped, crimson-purple flowers borne in summer. Height 1 to 2ft. There are three pretty varieties, namely, Alba, white; atropurpurea, deep purple; and bicolor, white and purple. The species and its white variety do well grown together in masses, and in this way are most effective when in flower. They require to be grown in sandy peat like the Ericas. Plant in autumn or spring. Increased by cuttings of young shoots inserted in sandy peat under a handglass in summer; layering shoots in autumn; seeds sown in pans of sandy peat in a cold frame in spring.

Daphne.—Hardy evergreen and deciduous shrubs, bearing fragrant flowers and belonging to the Nat. Ord. Thymelaceæ). Two species, D. Laureola (Spurge Laurel) and D. Mezereum, are natives of Britain. D. Mezereum is a deciduous species, grows 2 to 4ft. high, and bears pinkish or reddishpurple flowers before its leaves appear in early spring. The flowers are succeeded by bright red berries. An excellent shrub for small or large gardens. A beautiful and most interesting species is D. Cneorum (Garland Flower), a native of the mountains of Europe. It grows less than a foot high, has trailing shoots and fragrant pink flowers borne in clusters in spring. A charming plant for a sunny rockery. Another dwarf evergreen species which makes a pretty rock plant is D. blagayana. This bears very small white flowers in dense clusters at the ends of the shoots in April. These two plants should be grown in sandy peat and leaf-mould between limestone rocks if possible. The Rock Daphne (D. petræa, Syn. D. rupestris) is another dwarf evergreen shrub with rosypink flowers, borne in summer, that may be grown under similar conditions to the two previous species. D. pontica, a native of Asia Minor, is an evergreen species, growing 4 to 5ft. high, with greenish-yellow, fragrant flowers, borne in spring. A good shrub for a shady position. D. sericea (Syn. D. collina) is an evergreen species, growing 2 to 3ft. high, and bearing pink flowers in early spring. A good kind to grow in the front of shrubberies. There are several other species, but the foregoing are the most beautiful and suitable for general cultivation. Where not otherwise mentioned ordinary soil will suit the species described. Plant in autumn or spring. Increased by cuttings of ripened shoots inserted in sandy peat in a cold frame in autumn; layering the shoots in summer; grafting on D. Mezereum in spring.

Desfontainea.—D. spinosa is an evergreen shrub with holly-like foliage and tubular scarlet flowers tipped with yellow. It comes from Chili, and belongs to the Nat. Ord. Loganiaceæ. Height 3ft. It is really only hardy enough to thrive outdoors in the warm maritime districts of this country and Ireland. A well-drained sandy loam suits its requirements best. Plant in September. Increased by cuttings in sandy peat or loam in a cold frame in August or September.

Deutzia.-Hardy deciduous flowering shrubs, belonging to the Saxifrage family (Saxifragaceæ). D. crenata is a wellknown species, being grown in most shrubberies. It grows 6 to 8ft. high, bears white flowers in spring, and is a native of Japan. There is a double white variety named flore pleno, and a double pink kind called purpurea plena. D. gracilis is also from Japan, grows 2ft. high, and bears white flowers in April and May. This plant is largely grown for forcing in greenhouses. D. Lemoinei is a very pretty hybrid between D. gracilis and D. parviflora, with large flowers. Of this there are three varieties, namely, Compacta, Boule de Neige and Rose. The deutzias will grow in ordinary soil in slightly shady positions. Plant in autumn. Directly after flowering cut away the older growths, retaining the new, then the shrubs will have a bushy habit and flower better. Increased by cuttings of ripened shoots in sandy soil in a sheltered border in October.

Diervilla.—Hardy deciduous flowering shrubs, better known as Weigelas. They belong to the Honeysuckle family (Caprifoliaceæ), and are sometimes called Bush Honeysuckles. The flowers are tubular or bell-shaped, and borne very freely in clusters in early summer on the previous year's growth. These shrubs form most attractive objects when grown singly on the lawn, or on the margins of the shrubbery, or when trained against a wall or fence. They will succeed in ordinary good soil and should be planted in autumn. To keep the shrubs in good shape the straggly growths should always be cut back to the nearest strong young growths directly after flowering. No winter pruning, except to cut out dead or

sickly wood, should be attempted. The trees will also be greatly benefited by receiving annual top-dressings of decayed manure in autumn. Weak doses of liquid manure will be beneficial to shrubs that are flowering freely. Following are the best kinds to grow: D. grandiflora (Syn. D. amabilis), growing 4 to 8ft. high and Learing rosy-pink flowers. Its varieties, Isolina, white and yellow; Striata, red and white striped; Van Houttei, white and pink; and Stelzneri, purple-red, are very pretty shrubs. D. florida, whitish rose, and its variety rosea, rose, are very common in gardens under the name of Weigela rosea. D. middendorfiana has yellow flowers dotted with pink. Abel Carriere, reddish-purple, and Eva Rathke, reddish-crimson, are charming hybrids, which should be grown in every garden. D. japonica Looymansi aurea has golden foliage, and D. grandistora variegata pretty variegated foliage. Increased by cuttings of ripened shoots removed with a heel and inserted in sandy soil in a frame or outdoors in October; or by layering the shoots in summer.

shrub, a native of S. America, and belonging to the Nat. Ord Protaceæ. E. coccineum bears brilliant orange-scarlet flowers in drooping racemes in early summer. It is only hardy in Devonshire and Cornwall and in some parts of Ireland. Even there it needs the protection of a wall. Requires a peaty soil. Increased by cuttings of ripe shoots in gentle heat in autumn.

evergreen foliage shrub with heath-like foliage and pink flowers followed by blackish berries in autumn. Rubrum is a variety with purplish flowers and red berries. They belong to the Nat. Ord. Empetraceæ, and require to be grown in a damy spot in peaty soil. A moist rockery or a bog would be suitable place for them. Plant in autumn or spring. Increased by cuttings in sandy peat in a cold frame in autumn.

Enkianthus.—Hardy deciduous flowering shrubs natives of Japan and members of the Heath family (Ericaceæ) E. campanulatus is a dwarf species with slender branches and reddish-white flowers borne in short racemes in the axils of the leaves in July. E. japonicus bears white flowers in spring and its leaves assume a beautiful golden tint in autumn. Bot require a moist peaty soil and a sheltered position. Plant is autumn. Increased by cuttings of ripened shoots in sand peat in a cold frame in autumn.

Epigæa (Mayflower).—A dwarf evergreen shrub, a native of the shady pine woods of North America and a member

of the Heath order (Ericaceæ). E. repens has heart-shaped leaves and bears deliciously fragrant pink blossoms in May and June. It only grows a few inches high, and does best in sandy peat under the shade of pine or other trees. Plant in autumn or spring. Increased by division in autumn.

Erica (Heath).—Dwarf evergreen flowering shrubs, many of the species of which are natives of this country. Nat Ord. Ericaceæ. These shrubs, especially the dwarf kinds, are seen to best advantage when grown in masses, but in small gardens they may be grown to good effect as edgings to beds or borders or on the rockery. Heaths, however, are not adapted for town or small suburban gardens. In the country or large suburban garden where there is plenty of room they should certainly be grown. While sandy peat is an ideal soil for heaths, they will nevertheless do well in sandy or gravelly loams, in fact, in any soil except a heavy clay. When first planted it will be beneficial to work in plenty of leaf-mould or decayed vegetable matter with the soil, and in subsequent years to top-dress with decayed leaf-mould. Plant in autumn. The best kinds to grow are: E. carnea (Alpine Forest Heath), a native of Germany; height, 6in.; flowers, red or pink, January to April. E. carnea alba is a white variety of the latter. A pretty species for massing or edging. E. ciliaris (Dorset Heath) is a native of Dorset and Cornwall, grows oin. high, and bears pale red flowers in summer. E. cinerea (Scotch Heather) grows 6 to 12in, high, and bears crimson-purple flowers in summer. There are white, purple, scarlet, and rose-coloured varieties of this species, all of which are very pretty. E. lusitanica (Portuguese Heath) is a tender species and suitable for mild or sea-coast gardens only. It grows 2 to 4ft. high, and bears whitish-pink flowers early in the year. E. mediterranea (Irish Heath) is a native of Galway and Mayo in Ireland and the Mediterranean districts. It grows 4 to 5ft. high and bears pink flowers in April and May. A very pretty species, which does best in a peaty soil. E. hybrida is a cross between the latter and E. carnea, and has pinkish-purple blossoms borne throughout the winter. Does well as a carpeting to peat-loving shrubs. E. mediterranea alba is a pretty white Heath well worthy of culture. E. tetralix (Bell Heather) is a beautiful native species. growing 6 to 12in. high, and bearing rosy-red flowers in late summer. This and its white form, alba, and red one, rubra, are charming kinds for massing in gardens. E. vagans (Cornish Heath) grows about a foot high, and bears pink or purple flowers in late summer. There are white and red varieties. A good kind for massing in woodland gardens. Increased by seeds sown in a shady bed of peaty soil and merely raked in. Sow in spring or autumn. The seedlings 2 C 2

must not be disturbed for two or three years. Also by cuttings of shoots inserted in sandy peat in a cold frame in early spring and by division, or layering, in autumn.

Eriobotrya (Loquat; Chinese Medlar).—The Loquat is a half-hardy evergreen shrub bearing white flowers in autumn and medlar-like fruit, which, however, rarely ripens in this country. It has large wrinkled leaves, downy beneath, and grows from 10 to 15ft. high. This interesting shrub will only succeed outdoors in southern parts of the kingdom, and then solely when grown against a warm sheltered wall. Plant in May or September in well-drained sandy loam, and increase by cuttings of side shoots inserted in sandy loam in a cool house in summer. E. japonica (Syn. Photinia japonica) is a native of Japan, and belongs to the Rose order (Rosaceæ).

Erythrina (Coral Tree).—E. Cristagalli is a half-hardy shrubby plant with herbaceous stems, and bearing deep scarlet flowers in terminal racemes in summer or autumn. It belongs to the Pea order (Leguminosæ) and is a native of Brazil. This shrub will only succeed outdoors in the southern counties, and then only in a well-drained loamy soil against a south wall. The stems die back to the woody root-stock in autumn and new ones form in spring. The usual way to grow this plant is in a large pot or tub, shelter it in a warm greenhouse from October to May, then harden off and plunge in a sunny spot outdoors. Some growers store the roots like dahlias in a frost-proof place in autumn, and start them again in heat early in the year. Increased by seeds sown in heat in spring, and by cuttings of young shoots in March or April in heat.

Escallonia.—The Escallonias belong to the Saxifrage order (Saxifragaceæ), and are more or less hardy evergreen flowering shrubs. In Devonshire and Cornwall, and in mild districts on the sea coast, they do well as hedge shrubs, and in less favoured parts are grown against south walls. Most of the species have shining green leaves, and are attractive even without the flowers. E. macrantha, crimson-flowered, and growing 6 to 8ft. high, is one of the most generally cultivated species. Native of Chili. E. montevidensis, a native of New Granada, is another good species. This bears white flowers in July. Height 8 to 10ft. E. philippiana, a native of Valdivia, grows 4 to 5ft. high, and bears white flowers in July. This, too, is a good species. E. punctata, red, and E. rubra, red, are two other species sometimes grown. The Escallonias should be planted in good ordinary soil in September or April and May. When any pruning is needful

it should be done directly after flowering. Increased by cuttings of half-ripened shoots inserted in sandy loam in a cold frame in August or September; also by layers and suckers.

Eucryphia.—E. pinnatifolia is a pretty deciduous flowering shrub, a native of Chili, and a member of the Rose family (Rosaceæ). It has pinnate foliage, is of upright growth, and bears large pure white four-petalled flowers with yellow stamens in August. Height 8 to 10ft. It may be grown in the choice shrubbery in mild parts of the country, but in others a warm sheltered position is needful. Good, ordinary well-drained soil will suit it. Plant in autumn. Increased by layers only.

Exochorda (Pearl Bush).—E. grandiflora, better known as Spiræa grandiflora, belongs to the Rose order (Rosaceæ), and is a native of China. It is a deciduous shrub with graceful foliage, and bears large white blossoms in axilliary racemes in May. It grows to 10ft. high, and forms a very handsome and striking shrub when in flower. E. Alberti is a new species from Persia, but as yet little grown. This shruk succeeds best in deep rich loam in a sunny sheltered position. Plant in autumn. After flowering shorten any straggly growths back to the nearest strong lateral growths. Increased by cuttings of well-ripened shoots in sandy soil in a cold frame in October; also by layering in summer.

Fabiana (False Heath).—A half-hardy evergreen shrub, with heath-like foliage and small funnel-shaped, white flowers borne in May. It is a native of Chili, and belongs to the Potato order (Solanaceæ). Height 3 to 4ft. In the southern counties it does well in the open with other peat-loving shrubs, but in less mild districts a west or south wall is required to ensure its doing well. Plant in well-drained ordinary or peat soil in autumn or spring. No pruning is required except to shorten straggly shoots after flowering. Increased by cuttings of firm shoots inserted in sandy peat under a bell-glass or handlight in March or April.

Forsythia (Golden Bell).—Japanese hardy deciduous shrubs of considerable beauty, bearing golden-yellow blossoms freely in February and March before the leaves appear. They belong to the Lilac order (Oleaceæ). The two species in cultivation are F. suspensa, with slender twiggy wand-like shoots, and F. viridissima, an erect grower. F. intermedia is a hybrid between the two last named. F. suspensa, owing to its slender growth, is best suited for growing against sunny walls or fences, trellises, arbours, pergolas, or trailing over tree-stumps. For the first two or three years after planting train all the

shoots to the wall or fence, then let future growth grow as it pleases, and a charming effect will be obtained when in flower. Weakly or sickly shoots may be shortened to a couple of inches after flowering. F. viridissima is best grown as a bush in the shrubbery. These beautiful shrubs will grow in any soil. Plant in autumn. Increased by layering the shoots in summer; by cuttings of young shoots in sandy soil in a cold shady frame in July; also by cuttings of ripened shoots in sandy soil in a cold frame in October.

Fothergilla.—F. Gardeni (Syn. F. alnifolia) is a dwarf deciduous flowering shrub of straggly growth, bearing spikes of white fragrant flowers in April and May. It comes from N. America, and belongs to the Witch Hazel order (Hamamelidaceæ). It requires to be grown in a sandy peaty soil in a sunny sheltered border on a rockery. Plant in autumn. Increased by layering the branches in September.

Fremontia.—The only species of this genus of Californian flowering shrubs is F. californica. It belongs to the Nat. Ord. Sterculiaceæ, and is a deciduous species, growing 6 to 10ft. high. The young shoots are reddish-brown and the flowers yellow, large, and borne in June. The best position in which to grow this handsome shrub is against a north, west or east wall, and the most suitable soil is a sandy loam. Plant in autumn. After flowering, straggly growths may be cut back to a couple of inches, the other shoots being trained to the wall. Increased by cuttings inserted in sandy soil in gentle heat in spring.

Fuchsia.—Fuchsias are more or less shrubby plants, some of which are hardy enough to brave our winters outdoors. They are not only exceedingly graceful in growth, but most beautiful when in flower. They belong to the Evening Primrose order (Onagraceæ), and are natives of Chili, Peru and In Devonshire, Cornwall and the Isle of Wight fuchsias are extensively grown as hedge shrubs, and a very pretty object they are when in flower. In many old cottage gardens in other parts of the country hardy fuchsias have been grown for years at the base of house walls. It is true in such cases the shoots get cut down to the ground by frost, but the roots remain intact and send forth a fresh bevy of young shoots every spring to take the place of those that have died. Those that may be grown outdoors at the base of a sunny wall under ordinary climatic conditions, or in the open as shrubs in Devon, Cornwall, etc., are as follows: F. coccinea, flowers violet and scarlet, summer; height 3 to 4ft. F. conica, scarlet and purple, summer; height 3 to 6ft. F. corallina, a very hardy species; flowers crimson and purple, summer; height 10 or more feet. F. corymbiflora, flowers scarlet. summer; height 4 to 6ft. F. globosa, flowers purplish-red and violet, summer; height 5 to 6ft. F. gracilis, a very pretty. free growing and flowering species; flowers scarlet and purple, summer; height 6 to 10ft. F. macrostemma, flowers scarlet, summer; height 6 to 12ft. F. Riccartoni, a hybrid, bears red blossoms, is very hardy indeed, and grows well outdoors in Scotland. The foregoing will grow well in ordinary light, well-drained soil. They should be planted in spring. In winter, when the shoots die down, cut them off, and mulch the crown of the roots with cinder ashes or tree leaves as a means of protection against frost. In spring remove the mulching and then new shoots will soon spring up. This protection is not required when the plants grow into large shrubs 10 or more feet high. Once the plants get established they will flourish for years and make handsome bushes. Many of the tender greenhouse fuchsias will also live outdoors if planted against warm walls in well-drained borders. We have one planted many years ago at the foot of a greenhouse wall facing north-east which annually dies down to the ground, but sends up fresh shoots every spring. We have some in a shady border which have survived the winter for four years. Greenhouse fuchsias, apart from this fact, are very desirable plants to plant out in May or June in shady borders or beds; or in sunny ones for the matter of that. They also come in most useful as "dot" plants in beds planted with dwarf flowers, or for filling vases and window-boxes. They may be grown in bush, pyramidal or standard form. Large plants are usually plunged in their pots in the soil and lifted and wintered in a cool house, starting them to grow in spring. Fuchsias, both hardy and tender, may be easily increased by cuttings of young shoots in heat in spring, or in a shady cold frame in summer.

Garrya.—A genus of beautiful hardy evergreen shrubs, belonging to the Dogwood order (Cornaceæ). G. elliptica is the species most generally grown, and this has dark, shining green leaves, grows 8 to 12ft. high, and is a native of California. The male and female flowers are borne on separate plants. The male plant is the more beautiful of the two on account of its pale green drooping or tassel-like catkins, which are borne freely on the shoots in winter. The female plant—femina—is not so interesting. In the South and West, and in mild districts generally, the Garrya does well in the open, but in less favoured situations the shelter of a south or west wall is desirable. It will succeed in a well-drained ordinary soil. Plant in early autumn or April and May. No pruning required

beyond the removal of dead wood. Increased by cuttings inserted in sandy loam in August or September; also by grafting on Aucuba japonica in spring.

Gaultheria (Partridge Berry; Winter Green).—Dwarf evergreen berry-tearing shrubs, natives of N. America, and members of the Heath order (Ericaceæ). G. procumbens (Creeping Winter Green or Canada Tea) is a charming dwarf procumbent-growing shrub, bearing white flowers in July and red berries in autumn. The foliage has a rosy tint in autumn and winter. A suitable plant for the rockery, or for edging a, or massing on the margin of a bed of American shrubs. It does best in sandy peat or peat and loam, and a moist and cool position. G. Shallon grows 2ft. high or more, has heartshaped leaves, white and red flowers borne in May, and purple berries borne in autumn. This shrub is best suited for large rockeries or borders, or in woodlands under the drip of trees. It will grow better than any other shrub under Pine and coniferous trees. Plant in autumn or April and May. Increased by layering the shoots in autumn; division of the plants at same time.

Genista (Rock Broom).—Hardy deciduous shrubs, belonging to the Pea order (Leguminosæ). The dwarf kinds are suitable for rockeries or banks, and the taller ones may be grown in the mixed shrubbery. They will succeed in ordinary soil, and should be planted in autumn. Easily reared from seed sown outdoors in autumn or spring. The best dwarf species are: G. anglica (Needle Furze), yellow, May, 1 to 2ft., a native species; G. anxantica, yellow, late summer, Italy; G. hispanica yellow, fragrant, July, 6 to 12in., S. Europe, and its double-flowered variety, flore pleno; G. pilosa (Greenweed), yellow, May and June, growth prostrate, England; G. tinctoria (Dyer's Greenweed), yellow, late summer, 1 to 2ft., Britain, and its double variety, flore pleno. G. sagittalis is a pretty creeping species, with golden flowers, very suitable for rockery culture. Height 6in. The taller species suitable for the shrubbery are: G. ætnensis, yellow, July, 6 to 15ft., Sicily; and G. virgata, golden-yellow, April to July, 3 to 10ft., Madeira.

Gordonia.—G. pubescens is a North American deciduous shrub, growing 4 to 6ft. high, and bearing large, white sweet-scented camellia-like flowers in August. It belongs to the Nat. Ord. Ternstræmiaceæ. This shrub is suitable only for growing in mild districts, and requires a peaty soil. Plant in April or May. Increased by layers.

Grevillea. Half-hardy evergreen flowering shrubs, natives of Australia, and members of the Nat. Ord. Proteaceæ.



A BEAUTIFUL FLOWERING SHRUB (PHILADELPHUS LEMOINEI). See p. 407 for description and culture.



G. rosmarinifolius, bearing red flowers in summer and with rosemary-like foliage, and R. sulphurea, with juniper-like foliage and yellowish flowers, are the only two species that succeed outdoors, and these do best against a west wall. Ordinary light sandy loam will suit them. Plant in April or May. G. rotusta, a greenhouse species with fern-like foliage, is used for summer bedding. The plants are plunged in their pots in June and removed indoors in September. Increased by seeds sown in heat in spring.

Halesia (Silver Bell or Snowdrop Tree).—Hardy deciduous flowering trees, natives of N. America, and members of the Nat. Ord. Styracaceæ. The best-known species is H. tetraptera, and this is really the only one worthy of general cultivation. It grows 15 to 20ft. high, has a compact habit of growth, and bears pure white snowdrop-like flowers in May. This tree is a striking object when in flower, and a handsome tree for growing on the lawn or in the pleasure grounds. A fine specimen of it is to be seen in the gardens of Buxted Park, Uckfield, Sussex. The soil in this case is heavy Wealden clay, but well drained. Any good ordinary soil not too dry will suit it. We have also seen it thriving well by the side of a lake. Plant in autumn. Increased by seeds sown in sandy soil in a cold frame in spring; by cuttings of shoots inserted in sandy soil under a handlight in autumn; and layering in October.

Halimodendron (Salt Tree).—A genus of dwarf deciduous flowering shrubs, belonging to the Pea family (Leguminosæ). H. argenteum, the only species, has silky white pinnate leaves, and purple flowers borne in umbels in summer. It grows 4 to 6ft. high, and is a native of Asiatic Russia. Grafted on the Laturnum, or Caragana arborescens, and grown as standards, this shrub forms a pretty object. May be grown in the mixed shrubbery, or in beds of choice shrubs. Ordinary soil. Plant in autumn. Increased by seeds sown outdoors in autumn; cuttings or layering in autumn.

Hamamelis (Witch Hazel).—Hardy deciduous flowering shrubs, blooming in winter, and belonging to the Nat. Ord. Hamamelidaceæ. The most noteworthy species are: H. arborea, flowers yellow, calyces crimson, petals twisted, height 10 to 15ft., Japan; H. japonica, flowers yellow, calyces purple, 6ft., Japan; H. mollis, flowers bright yellow, 6 to 8ft., China; H. virginica, flowers rich yellow, height 6ft., N. America. The great charm of the Witch Hazels lies in their flowering in winter whilst the twigs are leafless. These shrubs thrive in any good soil, and should be grown in the mixed shrubbery in

positions where their flowers can be readily seen in winter. Plant in autumn. Any pruning that is needed should be done directly after flowering. Increased by layering the shoots in early autumn.

Helianthemum (Sun Rose).—Dwarf evergreen shrubby plants, belonging to the Rose family (Rosaceæ), and very showy subjects for growing on dry sunny rockeries or banks. One species, H. vulgare, grows wild on dry sunny banks in England. From this species a large number of varieties bearing single and double flowers have been obtained, as: Carminatum plenum, double red; coccineum, crimson, single; Golden Queen, single, yellow; Mrs. C. W. Earle, double, crimson; Sulphur Gem, sulphur yellow, single; Double Orange; Double White; Double Yellow; and Double Rosy Buff; croccum, yellow, single; and Amabile, orange and rose, single. Many others will be found described in hardy plant lists. These form neat, spreading tufts a few inches high, and flower profusely throughout the summer. The individual flowers do not last long, but there is a constant succession of fresh ones to take their place. Grow in ordinary light soil and plant in autumn or spring in the positions above named. Increased by cuttings of shoots inserted in sandy soil under a handlight in a shady spot outdoors in summer.

Hibiscus (Syrian Mallow or Rose of Sharon).—Hardy deciduous flowering shrubs, natives of Syria, and members of the Mallow order (Malvaceæ). The only shrubby species is H. syriacus, formerly known as Althæa frutex, the others being hardy annuals or perennials. This species grows 6 to 8ft. high, and the flowers of the type are purple, spotted with crimson. There are, however, a number of double and single flowered varieties which are exceedingly beautiful, the mos striking being albo plena, double white; cærulea plena, double blue; carnea plena, double red; lilacina plena, double lilac rosea plena, double rose; totus albus, single white; and Celeste, single blue. These beautiful shrubs require to be grown in a warm sheltered position and in a rich sandy loam They are scarcely hardy enough for outdoor culture, except in the South and West. Plant in autumn. Require no pruning except to remove dead wood in winter. Increased by cuttings of firm shoots in peat in summer, also by grafting on common species in early spring

Hydrangea.—Hardy deciduous flowering shrubs natives of China and Japan, and members of the Saxifraguere order (Saxifraguere). The two principal species are H. hor tensis and its varieties and H. paniculata. There are one of

two others, as H. quercifolia and H. chinensis, but we do not regard them of sufficient merit to be dealt with in this H. hortensis is the well-known species so largely grown in pots in greenhouses, but often met with in the South and on the West coasts growing and flowering in the open air. This bears white flowers in large corvmbs during the summer, and forms a bushy shrub 2 to 4ft. high and as much through. Its several varieties are superior to the type. especially good being Lindleyi (Syn. japonica), with white, blue or red-tinted flowers; Otaksa, flesh-coloured; stellata, pink, rose, blue, or green tinted, double; Thomas Hogg, white; Mariesii, pink and blue tinted, large; Mariesi Veitchi, pure white; and variegata, leaves blotched with white. To grow the foregoing well outdoors they must have a warm, sheltered position, and a well-drained sandy loam. They are best planted in spring, and should be annually top-dressed with well-rotted manure. In winter, when the leaves have fallen, cut away the shoots that have borne flowers. In some soils, as on those of the Hastings Sands formation, which contain iron, the flowers frequently attain a charming blue tint. H. paniculata is of a more shrubby character of growth, and bears its flowers in large panicles a foot or more long at the ends of the current year's shoots. It is the most showy of all the species and the most hardy also. Its variety grandiflora bears much larger clusters of flowers and is preferable to the type. This may be grown as a single specimen on the lawn, or in a mass in a bed. It requires a deep, rich loam plentifully mixed with rotten manure and liberal mulchings of rotten manure must also be given annually in winter. The current year's shoots require to be annually pruned back to a couple of eyes in February. All weak shoots should be removed entirely, as it is only really strong growths that produce fine clusters of flowers. Plant in early spring. Hydrangeas produce two kinds of flowers, fertile and sterile, and it is the latter which are the largest and showiest. Watering the soil occasionally with a solution of alum and water, a tablespoonful to a gallon; or a quarter-ounce of iron sulphate to a gallon of water, will sometimes change the white-flowered kinds to a blue tint. Increased by cuttings of partially ripened shoots inserted in sandy soil in a cold shady frame in summer or early autumn.

Hypericum (St. John's Wort).—Hardy deciduous or evergreen flowering shrubs, belonging to the Nat. (Ord. Hypericaceæ). The best-known species is H. calycinum (St. John's Wort). This grows about a foot high and bears large yellow flowers in summer. This is an excellent plant for covering bare spots under trees, massing in woodland gardens, or

clothing bare banks. A native species. H. Androsæmur (Tutsan) is a native species also, with large leaves and flowers and is adapted for a similar purpose to the last. H. elatum is a North American species, growing 4 to 5ft. high, and bearin yellow flowers in large clusters in July. A good kind for the mixed shrubbery. H. hookerianum grows 2ft. high and halarge yellow flowers in summer. The most beautiful of all however, is H. moserianum, a hybrid between H. calycinum an H. patulum, a dwarf kind with yellow flowers and red anthers. There is also a pretty form of this with variegated foliage mamed tricolor. The last two are best suited for a warm border or rockery. Plant in autumn. All prefer a sandy loam, but will do well in good ordinary garden soil. Increased by division of the roots in autumn; by cuttings in October; or be seeds sown in a cold frame in spring.

Idesia.—The only species grown is I. polycarpa, deciduous flowering tree, a native of Japan, and a member of the Nat. Ord. Bixineæ. As yet it has not been planted ver extensively in this country. It has handsome heart-shape leaves, green above and white beneath, and yellow fragram flowers borne in long drooping racemes. The male and femal flowers are borne on separate trees. Plant in well-draine ordinary soil and in a sheltered position in autumn. In creased by cuttings of ripened shoots inserted in sandy soil is gentle heat in early autumn.

Illicium (Aniseed Tree).—Half-hardy evergreen flowering shrubs, belonging to the Magnolia order (Magnoliaceæ). The are suitable only for outdoor culture in the South, and the do best against a south or west wall. Both their leaves an flowers are fragrant. The best species is I. floridanum, native of N. America. It grows 6 to 8ft. high, and bear purplish-red flowers in racemes during the summer. I. relig osum is a native of Japan, grows 3 to 4ft. high, and bear yellowish-white flowers. Both should be planted in September or early October in a well-drained sandy soil. In sever weather it will be advisable to protect the plants with stray hurdles. Increased by cuttings of ripened shoots in sand soil in a cold frame in August.

Indigofera (Indigo).—Deciduous flowering shrubs, be longing to the Pea order (Leguminosæ), and suitable only fe culture against warm walls in the milder parts of the kingdom I. gerardiana (Syn. floribunda) is a native of India, has peagreen pinnate foliage and purple-pink blossoms borne in longracemes in July. It makes a very showy wall shrub. I. decorated, and I. decora alba, white, are the remaining kinds. Thes

shrubs succeed best in well-drained sandy loam and leaf-mould, and should be planted in early autumn. In winter the lateral shoots should be cut back fairly close. Increased by seeds sown in slight heat in spring, and by cuttings of the young shoots in summer in a cold frame.

Jamesia.—The only species is J. americana, and this is a member of the Saxifrage order (Saxifragaceæ), and a native of the Rocky Mountains. It grows 2 to 3ft. high, is deciduous, and bears white flowers in terminal cymes during early summer. An interesting dwarf shrub to grow in small beds or in groups on the margins of a sunny shrubbery. Plant in early autumn in good ordinary soil. Increased by cuttings of firm shoots in sandy soil in a cold frame in autumn; or by seeds sown in similar soil in slight heat in March.

Kalmia (American Laurel).—A genus of evergreen flowering shrubs, natives of N. America, and members of the Heath order (Ericaceæ). They are very pretty and interesting shrubs requiring to be grown in moist sandy peat and leaf-mould free from lime. They do well to associate with hardy azaleas, rhododendrons, and other peat-loving shrubs. A partially shady position is desirable. In winter top-dress with well decayed manure, leaf-mould and peat. Plant in September or October. The best kinds are as follows: K. angustifolia, flowers purplish-crimson, June, 2 to 3ft.; K. angustifolia glauca, lilac-purple, April, 2ft.; K. latifolia, rosy-white, May to July, 3 to 6ft.; K. latifolia myrtifolia, myrtle-like foliage. Increased by cuttings inserted in sandy peat in a cold frame in autumn, also by layering the shoots in October.

Kerria (Jew's Mallow) .- Hardy deciduous flowering shrubs, natives of Japan, and members of the Rose order (Rosaceæ). The typical species, K. japonica, grows 4ft. high or so, and bears single orange yellow rose-like blossoms in spring. It is not so desirable or beautiful as its doubleflowered variety flore pleno, which has so long been a great favourite in English gardens. This bears large double rosettelike flowers on slender arching stems. The double variety is seen to the best advantage grown against a sunny sheltered wall. The finest specimen we have ever seen grows against a wall at Kidderminster. The shoots are quite 10ft. high. There are two variegated varieties, K. japonica foliis argenteis variegatis, silvery-leaved; and K. japonica foliis aureis variegatis, golden-leaved. Plant in autumn in good ordinary garden soil. Every year, directly the plants have flowered, cut out the old wood. Increased by cuttings of the young shoots in sandy soil in a cold frame in summer; division of the roots in autumn.

Koelreuteria.—K. paniculata is a handsome ornamental leaved deciduous and flowering tree, a native of China, and member of the Horse Chestnut order (Sapindaceæ). It grow to 15ft. high, and has elegant pinnate foliage which turns to a rich yellow and bronzy tint in autumn. In summer it bear yellow flowers in terminal panicles two or more feet long, and is therefore a very pretty object in the garden. A valuable and handsome tree to grow on the lawn or in the shrubbery. It appears to thrive best in a sandy or gravelly soil, and in not too exposed position. Plant in autumn. Increased be cuttings in gentle heat in spring, also by layering in autumn.

Laburnum (Golden Chain).—The Common Laburnum (L. vulgare) is one of our prettiest spring-flowering trees, and we only wish owners of suburban gardens would plant it mor largely than the lime and poplar. It would make just as good a screen and be infinitely prettier when in blossom. The latte is a native of Europe and a member of the Pea order (Legu minosæ). There are a number of varieties of it, among which may be specially mentioned aureum, with golden-yellow leaves Carlieri, with narrow leaves and flowers borne in long racemes quercifolium, a form with oak-like leaves; and monstrosum fastigiatum, with erect branches. All bear golden-yellow flowers. Then there is the Scotch Laburnum (L. alpinum), European species, with broader and richer green leaves and longer racemes than L. vulgare. This species grows 15 t 20ft. high, and flowers in June. Of this there are the following varieties: Autumnale, flowering in autumn; Parksii, flower yellow, borne in very long racemes; and Watereri, also yellow and with racemes fully a foot long. L. Adami (Purple Labur num) is a very interesting hybrid between Cytisus purpureu and L. vulgare, supposed to be obtained by grafting the tw on each other. Anyhow, the tree is a curiosity, as on on branch one may often see distinct racemes of yellow and purple flowers, or a single raceme, one-half of which is yellow and the other purple. All the Laburnums succeed in ordinar soil and should be planted in autumn. The Common Laburnum is often grown on a trellis archway or pergola with grea success, as the flexible shoots are easily trained. Laburnum require no pruning beyond cutting out dead wood in winter, o removing weak shoots in the case of trained plants directly after flowering. Laburnums are easily reared from seed, bu seedlings are not always satisfactory, and should only be use as stocks to bud good free-flowering varieties on in July.

Lavandula (Lavender).—No plant is more appreciated in gardens than the fragrant-flowered Lavender. Our forebear never omitted to grow a plant or two of it in their gardens

for the sake of the sweet blossoms, which they used to dry and place in their old clothes chest. L. vera is a native of S. Europe and a member of the Sage family (Labiatæ). It forms a neat shrubby bush with hoary foliage, from which issues in summer innumerable spikes of lavender-blue flowers. The Lavender prefers a rather dry soil and a warm sunny position, the base of a south wall being a very suitable place. Young plants may be easily obtained by pulling off small side shoots with a "heel" of old wood attached and planting these a foot apart in the open in October. The flowers should be gathered when fully developed in August, tied up in small bunches, and hung in a cold dry place for a few weeks.

shrubs of dwarf growth, belonging to the Heath family (Ericaceæ). They have leaves with curled edges, green above and rusty beneath. L. latifolium is the best known species, and this grows I to 2ft. high, and bears white flowers in terminal corymbs in May. Native of United States. Other species are L. glandulosum, white, May and June, 2 to 4ft., Rocky Mountains, and L. palustre, pinky-white, April and May, 2ft., N. Temperate zone. The Ledums are peat-loving shrubs, but often do fairly well in sandy loam. Best grown in company with Andromedas, Kalmias, etc. Plant in September or May. Require no pruning. Increased by layering the shoots in autumn.

Leiophyllum (Sand Myrtle).—Dwarf evergreen flowering shrubs, members of the Heath family (Ericaceæ), and a native of Virginia. The only species we shall refer to is L. buxifolium (Syn. Ledum thymifolium). This only grows about 6in. high, has small, oval, shining leaves and pink and white flowers borne in clusters in early summer. A dainty little shrub to grow on the margins of a bed planted with peatloving shrubs or on a rockery. Plant in autumn or spring. Requires plenty of moisture. Increased by layering the shoots in October.

Leptospermum.—Hardy evergreen flowering shrubs, belonging to the Myrtle family (Myrtaceæ). L. pubescens hails from Australia, grows 3 to 4ft. high, and bears where flowers in profusion during late summer. L. scoparium comes from New Zealand, grows 4ft. high, and bears reddish-lilac blossoms in January and February. The foliage, moreover, emits a fragrant odour when bruised. Both require a warm sheltered position and a peaty soil mixed with a little sandy loam. Plant in September. No pruning required. Increased by cuttings inserted in sandy peat in a cold frame during the summer.

Leucothoe.—This genus of evergreen flowering shrubs is closely allied to the Andromedas, and were formerly included in that genera. They are peat-loving shrubs, and require practially the same cultural conditions. The species hereafter mentioned are natives of N. America, and belong to the Heath order (Ericaceæ). The chief kinds are: L. acuminata, white, June, 1 to 2ft.; L. axillaris, white, May, 2 to 3ft.; L. Catesbæi, white, May, 2 to 4ft.; L. Davisiæ, white, May, 3 to 4ft.; L. racemosa, white, May and June, 4 to 8ft.; L. recurva, white, June. Plant in September. Increased by layering shoots in autumn.

Leycesteria (Flowering Nutmeg).—A genus of hardy deciduous flowering shrubs, belonging to the Honeysuckle order (Caprifoliaceæ). Only one species is grown, and that is L. formosa, a native of the Himalayas. This grows about 6ft. high, has slender hollow stems, and bears purplish flowers in leafy racemes during the summer. The racemes are furnished with purple bracts, which add to the attractiveness of the blossom. The flowers are succeeded by purple berries. It is a handsome shrub for the mixed border and does well in ordinary soil, but requires a sheltered position. Plant in autumn. After flowering the shoots that have flowered may be cut away, leaving the young growth only. In mild districts this shrub retains its foliage all the year. Increased by cuttings inserted in sandy soil in a cold frame in autumn; also by seeds sown in similar soil in a cold frame in September.

Ligustrum (Privet).—The Common Privet (L. vulgare) is a British shrub much used for hedges. Little need be said about this species, but there are several Japanese and Chinese species that are not so well known, yet are far more beautiful. L. japonicum, for example, has glossy green leaves and fragrant white flowers borne in large spikes in June. A variety of this named macrophyllum has much larger leaves. L. coriaceum is another variety, with large green leathery leaves and white flowers. L. lucidum has shining green leaves and white flowers borne in autumn; and L. ovalifolium makes a more attractive hedge than the common species. These shrubs grow about 6ft. high and are suitable for the mixed shrubbery. The most ornamental of all the privets is the Golden Privet (L. ovalifolium foliis aureis). This retains its foliage during the winter, and has its leaves margined with golden-yellow. It makes a splendid hedge, as well as an attractive shrub when massed in the shrubbery. This kind retains its bright colour best when grown in the shade. All are evergreen except the Common Privet, and they belong

to the Lilac order (Oleaceæ). Plant in autumn. Ordinary soil. No pruning, except to remove dead wood, is required. To make a good privet hedge trench the soil 3ft. wide and 3ft. deep, and plant the shrubs 6in. apart in October. Give the preference to the Oval-leaved Privet (L. ovalifolium) or the Golden Privet; both are far superior to the common kind. Cut the plants back about half-way the following April, and trim into shape in early summer. Increased by cuttings of young shoots inserted in a shady border outdoors in summer; or cuttings of firm shoots inserted outdoors in October.

Linnæa (Twin Flower).—The only species—L. borealis—is a dwarf evergreen shrub, growing a few inches high, and bearing white bell-shaped, fragrant flowers in pairs on slender stems in July. It is of trailing habit, has roundish leaves, belongs to the Honeysuckle order (Caprifoliaceæ), and is a native of Scotland and N. Europe. A pretty little plant for the rock garden or margins of a border of peat-loving shrubs. It requires a peaty soil and a moist position. Plant in May or September. Increased by division of the roots in autumn or spring.

Liriodendron (Tulip Tree).—The Tulip Tree (L. tulipifera) is an old inhabitant of British gardens, having grown here for over 200 years. Many fine specimens are to be seen growing in old gardens. It is a stately and handsome deciduous tree, with curious large three-lobed leaves and large tulip-shaped greenish-yellow flowers borne at the tips of the branches in May and June. This tree is a native of the United States, and grows upwards of 8 oft. high. It flourishes in well-drained sandy, loamy or gravelly soils, but rarely flowers until it is 20 years old or so. On heavy soils it makes rather sappy growth, which is easily injured by frost. Plant in autumn. No pruning required. Increased by seeds sown in sandy soil in a cold frame in spring. Nat. Ord. Magnoliaceæ.

Loiseleuria.—L. procumbens, the only species, belongs to the Heath order (Ericaceæ), and is a native of our Scottish mountains and N. Europe. It is a dwarf evergreen shrub with wiry trailing branches and pretty pinkish, bell-shaped flowers borne in early summer. It requires to be grown in sandy peat on a sunny rockery. Large plants are difficult to transplant, and the only way to establish this interesting shrub is by planting seedlings or rooted layers. Once it gets established it will thrive all right.

Loropetalum.—L. chinense is an evergreen flowering shrub from China, belonging to the Witch Hazel order (Hamamelidaceæ). It grows about 3ft. high, and bears white flowers

in clusters at the ends of the shoots in autumn. It is a pretty shrub and deserving of a place in the mixed shrubbery. Grow in ordinary soil and plant in May or September. No pruning required. Increased by cuttings in sandy soil in a cold frame or by layering the shoots in autumn.

Luzuriaga.—L. radicans is a Chilian evergreen shrub, belonging to the Lily order (Liliaceæ), and only hardy enough to succeed outdoors in mild parts of England or Ireland. It grows I to 2ft. high, has wiry stems and white flowers with golden anthers, borne in summer. A rockery or the margin of a bed of peat-loving shrubs is the best position for it. Plant in spring. Increased by layers.

Magnolia (Lily Tree).—The Magnolia is one of the most beautiful of hardy flowering trees and shrubs. Especially handsome is M. grandiflora, with its large leathery evergreen foliage and big white fragrant flowers. Many fine specimens of it are to be seen growing against warm walls in this country. Not less beautiful is the Yulan (M. conspicua), a Chinese deciduous species, which yields a wealth of large white fragrant flowers in spring before the leaves appear. This forms a delightful low tree when grown on the lawn. Soulangeana is a hybrid with white flowers, purple-tinted outside. Soulangeana nigra is another variety, which has dark plum-coloured flowers. M. conspicua and its varieties or hybrids not only make good lawn trees, but are also suitable for growing against a warm wall. M. stellata is a charming Japanese species with starry white flowers, which appear in March and April. It only grows about 5 to 6ft. high, and flowers in quite a small state. A fine kind for massing in beds or growing in the front of mixed shrubberies. The flowers are fragrant. We can strongly recommend it for small gardens. M. obovata is another pretty dwarf species, growing about 5ft. high, and yielding fragrant white and purple-tinted flowers in April and May. It is a native of China. M. acuminata (Cucumber Tree) is a tall deciduous species with very large leaves, and yellowish fragrant flowers borne in summer. This makes a handsome specimen tree for the lawn. M. Fraseri also does well outdoors. This bears creamy-white fragrant flowers in summer. There are several other species, but as their hardiness is doubtful we pass them by. With regard to cultural details M. grandiflora should be grown against a south or south-west wall, well sheltered from cold winds. A special hed, composed of two parts sandy loam and one part of equal proportions of peat, leaf-mould and sand, should be prepared for each tree. The bed should be fully 3ft. deep and 4 to 5ft. wide. The best time to plant is in May, and until the plant is established care must be taken to keep the soil moist. For the first summer syringe the foliage every evening after a hot day. No pruning must be attempted; merely train the shoots as they grow to the wall. The growth will be slow for the first few years. The deciduous species require no special soil. A good sandy loam or well-drained ordinary soil will suit them well. Plant in autumn. The only pruning Magnolias require is the removal of sickly shoots and shortening here and there a straggly shoot to keep the tree in good shape. Such pruning is best done directly the trees have flowered. Increased by seeds sown in sandy peat in a cold frame; by cuttings of ripened shoots removed with a "heel" of old wood and inserted in sandy peat in slight heat in summer; by layering in summer.

Mitraria (Mitre Flower).—M. coccinea is a dwarf evergreen flowering shrub from Chili, belonging to the Gloxinia order (Gesneriaceæ). It grows 2 to 3ft. high, has slender shoots, and bears bright scarlet, urn-shaped flowers during early summer. This shrub is hardy only in mild districts, and requires to be planted in a well-drained bed of sandy peat and loam in a sheltered position. Plant in May or September. No pruning required, except to cut away dead wood. Increased by division of the roots in spring, also by cuttings inserted in sandy soil in a cold frame in summer.

Myrica (Bog Myrtle).—A genus of deciduous and evergreen shrubs with fragrant foliage. They belong to the Sweet Gale order (Myricaceæ). M. Gale (Sweet Gale or Bog Myrtle) is a native deciduous species growing 3 to 4ft. high. This has brownish-green flowers borne in early summer. M. cerifera (Candleberry Myrtle) is a Canadian evergreen species, with reddish flowers, and growing from 6 to 10ft. high. M. asplenifolia (Sweet Fern) is a deciduous species from N. America. It has fern-like fragrant foliage and grows 3 to 4ft. high The flowers are white and borne in March. These shrubs require to be grown in a moist peaty soil in partial shade. Plant in autumn. Increased by layering the shoots in autumn.

Myricaria (German Tamarisk).—The only species grown of this genus is M. germanica, a hardy evergreen shrub, belonging to the Tamarisk order (Tamaricaceæ). It grows about 5 to 6ft. high, has feathery, tamarisk-like foliage, and bears rosy-pink flowers in plumes or spikes during the summer. A native of S. Europe. This shrub is well suited for growing on dry banks, where the soil is sandy and the position not too exposed. Plant in early autumn. Prune directly after flower-

ing, cutting away the shoots that have borne flowers, and leaving the young growth. Increased by cuttings of young shoots inserted in sandy soil in a cold frame in summer.

Nandina (Heavenly Bamboo).—There is only one species of this genus, and that is N. domestica, an evergreen flowering shrub, growing 4 to 5ft. high, bearing small white flowers in panicles in summer. It is a native of Japan, and belongs to the Barberry family (Berberidaceæ). This shrub has so far only proved itself hardy in mild districts. It is of graceful growth, and its leaves assume a reddish tinge in autumn. Plant in company with other peat-loving shrubs in May or September. No pruning required. Increased by cuttings of ripened shoots inserted in sandy soil in a cold frame in summer.

Neillia (Nine Bark).—Hardy deciduous flowering shrubs, allied to the Spiræas, and formerly known as such. They belong to the Rose order (Rosaceæ). N. amurensis (Syn. Spiræa amurensis) is a native of Amur, grows 4 to 6ft. high, and bears white flowers in racemes during summer. N. opulifolia is a North American species, better known as Spiræa opulifolia. This grows 4 to 7ft. high, and bears white flowers in corymbs or feathery clusters in June. There is a variety of it named lutea which has golden foliage and is very pretty. All the foregoing will succeed in good ordinary soil in the mixed shrubbery, or in groups, or singly on the lawn. The weak shoots of the flowering kinds should be well thinned out in winter, leaving the strongest unpruned. The shoots of the golden-leaved kind are best well pruned hard back in winter to keep the plant bushy and to secure a good crop of young golden shoots in summer. Plant in autumn. Increased by cuttings of firm shoots inserted in sandy soil in a cold frame in summer or autumn.

Neviusia (Alabama Snow Wreath).—N. alabamensis is an American hardy dwarf deciduous flowering shrub, belonging to the Rose order (Rosaceæ). It bears white or yellowish-green flowers along the full length of its shoots in summer. As yet a rare shrub. Will succeed in good loamy soil in the front of the choice shrubbery. Plant in autumn. Prune as advised for Neillia. Increased by cuttings of half-ripened shoots inserted in sandy soil in a cold frame in summer; also by layering the shoots in autumn.

Notospartium (New Zealand Broom).—N. Carmichaeliæ, the only species, is a Broom-like evergreen shrubbearing pink pea-like flowers in racemes at the sides of its

graceful shoots in August. In general appearance this shrub is much like a species of broom, and it belongs to the same order (Leguminosæ). A native of New Zealand. It will thrive in good ordinary soil in a sunny sheltered border. Probably not hardy enough for northern gardens. Plant in May or September. The only pruning required will be a thinning out of weak wood in winter. Increased by seeds sown in sandy soil in a cold frame in spring; also by cuttings of shoots inserted in sandy soil in a cold frame in autumn.

Nuttallia (Oso Berry).—The only species of this genus is N. cerasiformis. This is a hardy deciduous flowering shrub from California, which grows 6 to 10ft. high, and bears small white flowers in drooping racemes on the leafless shoots early in the year. It belongs to the Rose family (Rosaceæ). This shrub is quite hardy, and will grow in any good ordinary soil in the mixed shrubbery. It will do well even on a poor gravelly soil. Plant in autumn. No pruning beyond thinning out dead wood or shortening a branch here and there is required. Increased by cuttings of ripened shoots in a cold frame in autumn; layering at same time; or by suckers.

Olearia (Daisy Tree).—Hardy evergreen flowering shrubs, belonging to the Daisy order (Compositæ). They are mostly of dwarf growth, and form neat bushes, thus rendering them specially suitable for small or gardens. One of the best species is O. Haastii. This grows 2 to 4ft. high, has box-like leaves, hoary beneath, and bears a profusion of aster-like flowers in August. A really good shrub to grow in small front gardens, singly on the lawn, or in front of a mixed shrubbery. Other species are O. macrodonta and O. stellulata, etc. These, however, are not quite hardy, and may only be grown against warm walls in mild districts. Plant in May or September in good ordinary soil. No pruning needed. Increased by cuttings inserted in sandy soil in a cold frame in September; also by seeds sown in a similar soil and position in autumn or spring.

Oxycoccus (Cranberry).—The native Cranberry of our moors and bogs (C. palustris) is an interesting dwarf, trailing shrub to grow in a bog or other moist spot in the garden. Apart from its pink flowers, borne in May, it bears red berries later on, which are edible. The American Cranberry (O. macrocarpum) bears larger berries than the common species. Plant in autumn. Increased by layering in autumn, also by seeds sown in moist peat outdoors.

Oxydendrum (Sorrel Tree).—O. arboreum is a hardy evergreen flowering shrub or tree from the United States.

There it grows 20ft. high and upwards, but it has not been grown long enough in England to determine its height under cultivation. It is a very handsome and beautiful shrub, with large leaves, which change to a bronzy hue in autumn, and bearing white flowers in terminal racemes during early summer. It requires a peaty soil and a sheltered position. Plant in May or September. Increased by seeds sown in sandy peat in a cold frame in spring. A member of the Heath order (Ericaceæ).

Ozothamnus.—A genus of Australian evergreen flowering shrubs, of which O. rosmarinifolius is the only species worthy of note here. This shrub belongs to the Daisy order (Compositæ), has rosemary-like leaves, and white flowers borne in dense clusters in August. A pretty shrub to grow on a warm bank or in the front of a sunny mixed shrubbery. Will grow in ordinary soil, and should be planted in early autumn. No pruning needed. Increased by cuttings inserted in sandy soil in a cold frame in August.

Pæonia (Tree Pæony).—The Tree Pæony is distinct from the ordinary or herbaceous Pacony on account of its having woody stems and shrub-like habit. P. moutan comes from China and Japan, grows 3 to 4ft. high, is deciduous, has finely cut foliage, and bears its large handsome flowers of many shades of colour in May and June. Of this species there is a host of lovely varieties, the names of which will be found in P. lutea is a yellow-flowered species of recent introduction. The Tree Pæony and its varieties require to be grown in a sheltered, sunny position, and in a deep, rich, welldrained loamy soil. Very light soils should have some loam and cow-dung freely mixed with them, and very heavy soils be made more light and porous by adding plenty of road grit, leaf-mould and well-rotted manure. Planting should be done, if possible, in September or October, or in March or April. The plants do not, as a rule, flower till the third or fourth year after planting, so immediate flowering must not be expected. Early every spring top-dress with well decomposed manure. Tree Pæonies delight in a rich soil. They are increased by grafting on the fleshy roots of the common herbaceous pæony in early autumn; also by cuttings removed with a "heel" of old wood and inserted in sandy soil in a cold frame in July or August.

Parrotia (Iron Tree).—P. persica is a deciduous flowering shrub of hazel like growth, belonging to the Witch Hazel order (Hamamelidaceæ). It is a native of Persia, grows 8 to 10ft. bigh, and has foliage which changes to a rich orange or yellow

and crimson tint in autumn. The flowers are yellow and small, but their attractiveness is intensified by the crimson-tipped stamens. In mild districts this beautiful shrub may be grown in the open, but in colder parts the shelter of a warm wall is desirable. Plant in ordinary soil in autumn. No pruning needed. Increased by layering the shoots in summer.

Paulownia.—A very handsome deciduous flowering and foliage tree is P. imperialis, but unfortunately too tender to thrive really well outdoors except in mild districts. We have known trees to grow to a fair size, and then to have their shoots severely injured the first severe winter. The Paulownia belongs to the Foxglove order (Scrophulariaceæ), is a native of Japan, grows 30 to 40ft. high, and has very large heartshaped leaves varying from 12 to 20in. in length and breadth. The flowers are purplish-violet and spotted, foxglove-like, fragrant, and borne in terminal panicles in spring. This tree requires to be grown in a deep rich loamy soil and in a position well protected from cold winds. Planting should be done in autumn. Extra fine shade trees may be obtained by cutting the shoots back fairly close in March. Increased by seeds sown in light sandy soil in a cold frame in March; cuttings inserted in a similar soil and position in October.

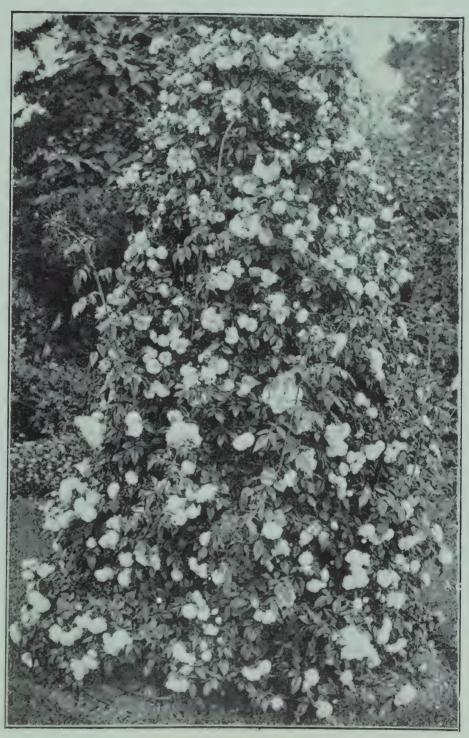
Philadelphus (Mock Orange).—Hardy deciduous, whiteflowering shruks, with an orange-like fragrance, belonging to the Saxifrage family (Saxifragaceæ). The Common Mock Orange (P. coronarius) is grown in most gardens, but is not often seen flowering so freely as it ought to be owing to the mistake made of pruning away the flowering shoots in winter. The proper time to prune is directly after flowering, and then the shoots that have flowered only should be cut away, leaving the young ones to flower the next season. This species grows 5 to 10ft. high, and flowers in early summer. Foliis aureis is a golden-leaved variety; argenteo-variegatis, a silver-leaved form; flore pleno, a double-flowered variety; nanus, a dwarf one. A native of S. Europe. P. microphyllus forms a dense bush 3ft. high, has myrtle-like foliage, and flowers in summer; a pretty kind. A native of Colorado. P. grandiflorus grows about 6ft, high and bears flowers 3in, or more across in June. Its variety floribundus flowers more freely; and there is also a dwarf form named laxus. Native of the United States. P. gordonianus is a very free-flowering scentless species from N.W. America; it grows 8 to 10ft. high. The most beautiful of all to our mind is P. Lemoinei, a hybrid between P. coronarius and P. microphyllus. This forms a neat bush three or more feet high, and flowers profusely in June. A splendid

kind for small gardens. Boule de Neige is another beautiful cross-bred between P. Lemoinei and P. coronarius flore pleno. It bears double white fragrant flowers. The two last named should be grown in every garden. The Mock Oranges will thrive in any ordinary soil and sunny spot. P. coronarius may be planted by the side of an arbour and the strong shoots trained to this, then in a few years it will form a dense canopy of growth, laden with fragrant blossoms in early summer. Increased by cuttings of young shoots inserted in sandy soil in gentle heat in spring; suckers, removed in autumn; layering in summer; cuttings of ripened shoots inserted in a border outdoors in October.

Philesia (Pepino).—P. buxifolia is a beautiful Chiliancvergreen shrub, belonging to the Lily order (Liliaceæ). It bears carmine-red bell shaped flowers in summer, and requires to be grown in well-drained sandy peat on a cool part of the rockery. It is a slow grower, and therefore requires much patience on the part of the cultivator. It may only be grown in mild districts.

Photinia (Chinese Hawthorn).—The Photinias are evergreen shrubs of a somewhat tender character, and suitable only for growing against warm walls or in sheltered shrubberies in mild districts. P. serrulata (Chinese Hawthorn), the only species worthy of note, has laurel-like leaves and white hawthorn-like blossoms, borne in early summer. It belongs to the Rose family (Rosaceæ), and requires to be planted in well-drained sandy loam in May or September. Increased by cuttings of side growths inserted in sandy soil in a cold frame in August.

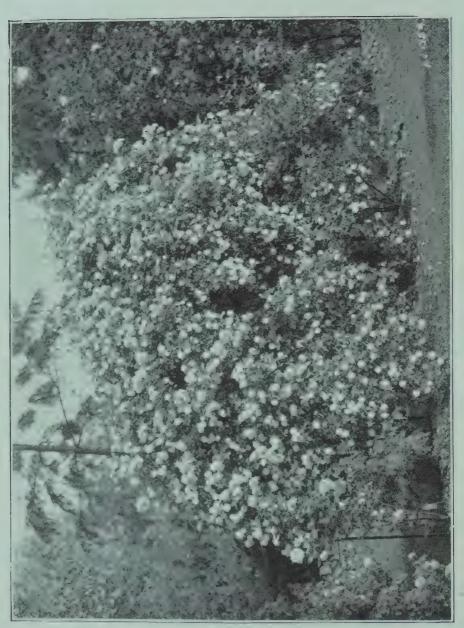
Pieris (Lily of the Valley Bush).—A genus of dwarf evergreen and deciduous flowering shrubs, belonging to the Heath order (Ericaceæ). The species named below are also known as Andromedas, but present-day botanists place them in the genus Pieris. The principal species are: P. floribunda (Syn. Andromeda or Leucothoë floribunda), flowers white, borne in May; height 2 to 6ft.; native of the U. States. P. japonica (Syn. Andromeda japonica); flowers, white, June; height 2 to 3ft.; Japan. Elegantissima or variegata is a variety with a variegated foliage. P. mariana (Syn. Andromeda mariana) is a deciduous species, growing 2 to 4ft. high, and bearing white flowers in May; native of Florida. All are peat-loving shrubs, and do best grown with Rhododendrons and similar shrubs. Plant in September. No pruning required. Increased by layers in autumn.



A CHARMING EXAMPLE OF A PILLAR ROSE.

The rose figured is Bennett's Seedling, but any of the Rambler type of roses would be equally well adapted for ensuring a similar beautiful effect.

See p. 418.



Plagianthus.—P. Lyalli is a pretty evergreen flowering shrub not yet in general cultivation, but its merits will bring it into popularity, once they become known. It is a native of New Zealand, and belongs to the Mallow order (Malvaceæ). The flowers are pure white, large, and borne in clusters in summer. It will only succeed outdoors in mild districts, and is then best grown against a south wall, and planted in sandy loam and leaf-mould. Plant in September and, directly after flowering, cut away the shoots that have flowered, so that the young growths may get well ripened. Increased by cuttings of ripe shoots inserted in sandy soil in a cold frame in autumn.

Polygala (Bastard Box).—This genus contains several species of shrubs and perennials. Here we shall solely deal with the shrubby species, of which P. Chamæbuxus is the only one worthy of note. This is a dwarf shrub, 6in. high, with creeping branches, box-like leaves, and fragrant, creamy-yellow flowers borne in summer. There is also a variety named purpurea, with magenta, purple and yellow flowers. P.Chamæbuxus is a native of the Alps of Austria and Switzerland, and belongs to the Milkwort order (Polygalaceæ). It requires to be grown in sandy peat in a rockery not too fully exposed to the sun. Plant March to May. Increased by seeds sown in sandy peat in a cold frame in spring; also by cuttings in similar soil and position in summer or early autumn.

Potentilla (Shrubby Cinquefoil).—A genus of hardy shrubs and perennials. The shrubby species is P. fruticosa, a native of Britain, and a member of the Rose order (Rosaceæ). It grows about 4ft. high, has brownish stems and pinnate glaucous deciduous leaves. The flowers are bright yellow and borne in July. It will grow in ordinary soil in a sunny border or on a dry bank. Plant in autumn. Increased by cuttings of the young shoots in sandy soil in a cold frame in spring.

Prunus (Flowering Almond, Plum, Cherry, Apricot, and Peach).—Here we have a genus of very beautiful flowering trees or shrubs, belonging to the Rose order (Rosaceæ). The Almond (P. Amygdalis) is a native of Barbary, and one of the most beautiful of spring flowering trees. Its rosy blossoms appear in March. Dulcis (Sweet Almond), red; and flore pleno, flesh, double, are pretty varieties of it. Excellent trees for town and suburban gardens. Of the Peaches, P. davidiana, a native of China, is one of the best. This has pale rose flowers borne early in spring. Alba, white, and rubra, red,

are varieties of it. P. Persica flore pleno, double red, and its variety magnifica are also beautiful spring flowering trees. The variety foliis rubris, with purple foliage, is very pretty. These are also desirable trees for small gardens. Of the flowering Apricots, P. triloba flore pleno is a most beautiful species. It forms a neat bushy shrub, and in early April its slender shoots are literally smothered with double rose blos-We can strongly recommend it as a really good flowering shrub for small or large gardens. Of the flowering Plums P. cerasifera atropurpurea (Purple-leaved Plum), generally known as Prunus Pissardi, is a showy shrub, which may be grown as a standard or bush. It has purple leaves and shoots and white blossoms borne freely in April. A very handsome Then among the flowering Cherries we have many beautiful kinds, as follows: P. Avium flore pleno (Double Wild Cherry or Gean). This grows 20ft. or more high, and bears double white flowers in spring. P. Cerasus Rhexii flore pleno (Double White Cherry), a double white variety of the Wild Cherry, growing 20ft. high, flowering in spring. P. japonica flore pleno (Double Chinese Cherry), double white, growing 3 to 5ft. high. P. pseudo-cerasus (Bastard Cherry). Of this Chinese species the double varieties are flore pleno, white tinged with pink, and Watereri, white. Both make fine standards, and are suitable for small or large gardens. P. serrulata flore pleno (Double Chinese Cherry). This grows about 15ft. high, and bears double rosy blossems in clusters in April. P. virginiana (Choke Berry). This is a beautiful tall growing species from America. It bears white flowers in long racemes in May. The Bird Cherry (P. Padus), a native tree growing 20 to 30ft. high, and bearing white flowers in spring, and its double white form (flore pleno), are showy flowering trees to grow in the mixed shrubbery. The Myrobalan Plum (P. cerasifera) is employed chiefly for making hedges.

To this genus belongs the Common or Cherry Laurel (P. Laurocerasus) and the Portugal Laurel (P. lusitanica). Of the Common Laurel there are several distinct varieties superior to the type. Thus there is angustifolia, with narrow leaves; caucasica, a very hardy kind; colchica, a good hardy variety; and rotundifolia, round-leaved. The Laurels are evergreen, and the common kind hails from the Levant, and the Portuguese from Portugal. The latter makes a handsome lawn tree, and is often grown as a low standard. All the Laurels may be grown in the mixed shrubbery in ordinary soil. They should be planted in May or September. The Cherry Laurels are often grown as hedge shrubs. In this case trench the soil 3ft. wide and deep, and mix plenty of rotten manure or

decayed refuse with it, then plant young shrubs 2ft. high and 2ft. apart. The shoots should be annually trimmed in with a

knife in April, and not with shears.

As regards the flowering Cherries, Plums, etc., these should be planted in autumn in good ordinary soil. Any pruning which may be required should be done directly after the plants have flowered, merely shortening straggly growths. The too free use of the knife on these shrubs induces gumming and dying back of the branches. In the case of grafted trees suckers are apt to throw up freely from the stock; these must be promptly removed, otherwise they will take all the strength from the tree and eventually kill it. A reference was made to the use of the Myrobalan Plum as a hedge shrub. The plants should be put in 6in. apart in trenched soil in autumn, the shoots being cut well back the first winter. In successive years trim the hedge in June or July.

Propagation is effected by means of cuttings in the case of all the species. The deciduous cuttings should be made of ripened shoots 6in. or so long, and be inserted half their depth in sandy soil outdoors in October. Laurels may be increased in the same way, but they will root more readily in a cold frame. All the kinds, including the Laurels, may also be increased by layering in autumn; and the deciduous species by budding on suckers or seedlings of the Pium or Cherry in

August.

Punica (Pomegranate).—P. granatum is a pretty Persian deciduous flowering shrub, belonging to the Loosestrife order (Lythraceæ). There is a single and a double-flowered red variety, and both are suitable for growing against walls in mild districts. Plant in good loam in autumn, and directly after flowering thin out the shoots that have flowered only. Increased by cuttings of half-ripened shoots in gentle heat; also by suckers and layering.

Pyrus (Mountain Ash, Crab, Medlar, Quince, etc.).—An extensive genus of hardy deciduous flowering or berry-bearing trees belonging to the Rose order (Rosaceæ). P. Aucuparia is the Rowan or Mountain Ash, a native tree which bears creamy-white flowers in spring, succeeded by scarlet berries in autumn. There is a yellow-fruited form called fructo-lutea. P. baccata (Siberian Cherry Crab) grows 15ft. high, has white flowers succeeded by red fruits the size of a cherry. A very ornamental tree. P. coronaria (Sweet-scented Crab) is a beautiful species, growing 20ft. high, and bearing rosy fragrant flowers in May. Flore pleno is a double form of it. P. floribunda (Japanese Crab) grows 10 to 20ft. high, and bears rosyred flowers in profusion in May. Atrosanguinea, deep red;

pendula, drooping; and flore pleno are pretty varieties of it. P. japonica (Japanese Quince), commonly called "Japonica," bears brilliant scarlet flowers in winter and early spring, and is frequently grown as a bush in the shrubbery, also trained against walls; a very showy shrub. Of this species there are numerous pretty forms, as candicans, white; luted viridis, yellow; Moorloesi, crimson; sulphurea perfecta, sulphur-yellow; and Knaphill Scarlet, a brilliant scarlet. P. Maulei is a dwarf species, much like P. japonica. This bears red flowers in April and orange-yellow fragrant fruits in autumn. P. Maulei superba, scarlet, is a superior form of it. A popular wall shrub. P. prunifolia (Siberian Crab) bears white flowers succeeded by yellowish-red fruits. It grows 20 to 30ft. high. There is a double-flowered variety (flore pleno), and a weeping one called pendula. P. Aria (White Beam Tree) and P. pinnatifida have deeply lobed leaves, green above and hoary beneath; white flowers borne in spring. succeeded by scarlet berries. Many other species might be mentioned, but our aim is to deal only with the best known and most beautiful kirds in this work. All those described are extremely pretty and deserving of a place in the mixed shrubbery or the other special positions mentioned. They will succeed in ordinary soil, and should be planted in autumn. The Japanese Quinces (Pyrus japonica and Maulei) require a certain amount of pruning in December. Then the leading young shoots should just have their tips removed, and all the side growths be shortened to a couple of inches to form fruiting spurs. The other kinds require no pruning beyond thinning out weak or dead growths in winter. Increased by seeds, cuttings, layering, budding and grafting. The ripe fruits of P. Maulei make an excellent preserve.

Raphiolepis (Japanese Hawthorn).—A genus of evergreen shrubs, belonging to the Rose family (Rosaceæ), and natives of Japan. P. japonica (Syn. P. ovata) is a dwarf species, growing 2 to 3ft. high, and bearing white hawthorn-like scented flowers in summer. In the South it may be grown in the open, but in other parts the shelter of a warm wall is desirable. It does best in sandy peat and loam, and should be planted in May or September. Increased by cuttings of firm shoots in sandy peat in a cold frame in autumn.

Rhododendron (Rose Bay).—Evergreen or deciduous shrubs, belonging to the Heath order (Ericaceæ). The evergreen kinds embrace a large number of species as well as a legion of beautiful hybrids, the latter being, perhaps, the most generally grown. The most distinct of the evergreen species are: R. arboreum, a native of the Himalayas, growing

20ft. high, and bearing rich scarlet flowers; hardy only in the South. R. catawbiense, a native of the U. States; height 3 to 6ft.; flowers lilac-purple; very hardy. R. caucasicum, a native of the Caucasus; height ift.; flowers rose and white. August. R. ciliatum, a native of Sikkim; height 2ft.; reddishpurple, May. R. cinnabarinum, a native of Sikkim; height 2 to 3ft.; flowers brownish-red. R. ferrugineum (Alpine Rose). a native of the Alps; height ift.; flowers scarlet. The variety album has white flowers. R. hirsutum, height 1 to 2ft.; flowers scarlet; native of S. Europe. R. racemosum, height 6 to 12in.; flowers rose; native of China. R. ponticum, height 6 to 12ft.; flowers purple-violet; native of Asia Minor; the common species. The special hybrids are: R. altaclerense, brilliant scarlet; R. Manglesii, white, spotted with reddishpurple; R. nobleanum, bright crimson, flowering in January; R. præcox, rosy-purple, February and March; and R. roseum odoratum, rose, fragrant. The general hybrids are very numerous, and include flowers with almost all shades of colour.

Following is a selection of twenty-five of the prettiest and best of the hybrids for general garden cultivation: A. B. Freeman Mitford, crimson; Barclavanum, reddish-rose; Baroness Schroeder, white, spotted purple; Caractacus, purplishcrimson; C. S. Sargent, scarlet; Countess of Clancarty, rosecrimson; Duchess of Bedford, crimson, light centre; George Paul, crimson; Helen Waterer, white and crimson; John Waterer, deep crimson; Kate Waterer, rosy-crimson and yellow; Lady Clementine Mitford, peach; Lady Eleanor Cathcart, rose, spotted chocolate; Marchioness of Lansdowne, rose, spotted with black; Maxwell T. Masters, rosy-crimson; Mrs. John Clutton, white; Mrs Holford, salmon-pink; Old Port, purple; Pink Pearl, pink; Sappho, white, blotched crimson; Sigismund Rucker, magenta-crimson; The Queen, blush; The Warrior, rosy-scarlet; Vesuvius, crimson-scarlet; and Princess Mary of Cambridge, white, edged with purple. Early Gem is a very pretty dwarf early flowering kind for rockeries or margins of rhododendron beds.

Modern botanists now include the species familiarly known as Azaleas in the genus Rhododendron, and we are adopting the same course so as to bring all the members of the same family under one heading. R. amæna (Syn. Azalea amæna) is a variety of Azalea indica. It grows 2 to 3ft. high, and bears rich crimson flowers in spring, and is evergreen. R. calendulaceum is a deciduous American species, growing 3 to 6ft. high, and bearing yellow, red and orange flowers in May. R. pontica (Azalea pontica), yellow, orange and red-flowered, height 4 to 6ft., a native of the Levant, is a deciduous species, and the parent of a race of hardy Azaleas grown in

gardens. R. sinense (Azalea mollis) is a Japanese species, with downy deciduous foliage, and orange or yellow flowers. From this species, and by intercrossing with others, a race of lovely varieties, single and double, with flowers of all shades of yellow, orange, red and pink, have been obtained. These are known as the Mollis Hybrids. Then there is also another race of Azaleas known as the Ghent or American. These have small honeysuckle-like flowers in both single and double forms. The latter are extremely hardy and free flowering. The Mollis Hybrids are more tender, with much larger flowers and a dwarfer habit.

As regards varieties of the pontica or Ghent type, the following are good single-flowered sorts: Admiral de Ruyter, blood-red; Belle Merveille, pink; Comte de Flanders, carmine; Daviesii, white; Duc de Provence, vermilion; Fama, mauve; Fust Camille von Rohan, orange; Grand Monarque, salmonpink; Julius Cæsar, crimson; Meteor, red; Rembrandt, crimson and violet; and Unique, golden-yellow. The following are double-flowered varieties belonging to the same class: Bartale Lazaris, flesh-pink; Dr. Streiter, carmine; Heroine, rose-lilac; Narcissiflora, yellow; Ophrie, yellow and pink; and Rosetta, pink. We now give a selection of the varieties of the Mollis type: Alphonse Lavallee, orange; Baron Edmund de Rothschild, red; Charles Lupis, rose and magenta; Chevalier A. de Realli, straw yellow; Comte de Gomer, pink; Comte Papadopoli, rose-pink; Consul Ceresole; Consul Pecher, pink; Ebenezer Pycke, salmon-pink; Ernest Bach, salmon pink and orange; M. Arthur de Warelles, light-carmine; and W. E. Gumbleton, golden-yellow. The following are lovely hybrids between R. mollis and R. pontica: Charles Rogier, mauve; Edison, pink; Frere Orban, creamy-white; Gloire de Belgique, lilac; Mignon, rose-pink; and Oswald de Kerchove, pink; Anthony Koster, yellow; Alma Tadema, rose-pink; Dr. Pasteur, orange red; Madame Anthony Koster, orange-pink; Hugo Koster, salmon-red; and Marshal Blucher, orange, blotched with brown. For a more complete list see trade catalogues.

With reference to culture, both the Rhododendrons proper and the Azaleas thrive best in good sandy peat. They will grow, it is true, in loam, but not so well as when in peat. This is particularly the case with the Azaleas. Nor can these shrubs be grown in seil containing traces of lime, and least of all on chalky soils. Where the soil is not naturally suitable it must be taken out to the depth of 2 to 3ft., and replaced with the proper kind. Then again, except in the case of R. ponticum, the common species, all the species do best in a sheltered position. The choicer hybrid rhododendrons and the species and hybrids of azaleas do well planted together in beds, the

vellow and orange shades of the latter contrasting finely with the richer tones of the rhododendrons. time to plant or transplant is in May or September. Care must be taken that the roots never suffer from drought. and the best way to guard against this is to annually top-dress in winter with leaf-mould and rotten manure. In very dry seasons the short lawn mowings may also be applied as a mulch. A copious watering during long periods of drought will also be beneficial. When the plants have flowered remove the seed pods from choice kinds. As to pruning, the less of this the better; but in the case of large overgrown bushes of the commoner kinds, we have cut these back to within a foot of the soil in April, and in three or four years obtained fine, handsome bushes laden with flowers. The great secret in growing these shrubs successfully is to plant in peat, or peat and loam free from lime; mulch liberally as advised, and never allow the roots to get dry. As to propagation this may be effected by seeds sown in sandy peat in a cold frame in spring, the seedlings being transplanted into pans and finally into pots, and kept in the frame for a year or so, then planted out. In some districts rhododendrons reproduce themselves freely from seed. The other method is by layering in autumn. Cuttings are difficult to root, and grafting is not a desirable mode, as such plants are short-lived.

Rhodothamnus (Ground Cistus).—A dwarf alpine evergreen shrub, formerly known as Rhododendron chamæcistus and now as Rhodothamnus Chamæcistus. It belongs to the heath order (Ericaceæ), and is a native of the Austrian Alps. The flowers are pink and borne in May. Height 6in. This somewhat rare shrub should be grown in moist peat on a partially shady rockery. Plant in May. Increased by layering the shoots in autumn.

Rhodotypos (White Jew's Mallow).—R. kerrioides, the only species of this genus, is a charming deciduous flowering shrub from Japan. It belongs to the Rose order (Rosaceæ), grows 5 to 10ft. high, and bears white flowers in May. It is not unlike the Jew's Mallow (Kerria), and, like the latter, may be grown in similar soil and in a similar position. In fact, the cultural details given for the latter apply equally to the present shrub.

Ribes (Flowering Currant).—Hardy flowering deciduous shrubs of American origin, and belonging to the Saxifrage order (Saxifragaceæ). R. sanguineum is one of our commonest flowering shrubs. It grows 5 to 10ft. high, and bears deep rose flowers in drooping racemes in May. Of this there is

a white variety named album and a red one named atrorubeus. R. aureum (Buffalo Currant) bears golden-yellow flowers, and R. gordonianum, a hybrid, red and yellow flowers in May. R. speciosum has hairy, prickly stems and crimson flowers with protruding stamens. This species does trained against a warm wall; the others may be grown in the mixed shrubbery in ordinary soil. Plant in autumn. The Flowering Currants should be pruned directly after flowering, thinning out the shoots that have flowered. Weak or sickly shoots may also be thinned out in winter,. Increased by cuttings of the ripened shoots inserted outdoors in October; also by layering in autumn.

Robinia (False Acacia).—The Robinias belong to the Laburnum order (Leguminosæ), and are hardy deciduous trees. R. Pseud-acacia (False Acacia) is a tall growing, N. American tree, growing 30ft. high or so, with pinnate leaves, and white fragrant flowers borne in drooping clusters in May. The late William Cobbett did much to encourage the planting of this tree in woodlands and gardens. It is of rapid growth, and well suited for the mixed shrubbery. The variety inermis is a compact-headed tree much grown as standards in suburban front gardens. This is grafted on R. Pseudacacia. The prettiest species is R. hispida (Rose Acacia). This grows 10 to 15ft. high, and bears large rosy blossoms in drooping racemes in May. A fine tree to grow as a standard in small gardens. All succeed in ordinary soil. Plant in autumn. The mop-headed kind (inermis) requires to be annually pruned in close in winter. Increased by seeds, and by budding or grafting.

Rosa (Rose).—In a book of the flower garden some mention must be made of the Rose in a general way, for it is one of the important subjects grown therein. Yet so vast is the theme that we cannot possibly do justice to it in the brief space at our disposal. All we can do is to deal briefly with the various uses to which the various sections of roses may be put, and give a few cultural hints. For a fuller treatise we must refer the readers to our monograph on "Roses and their Cultivation."*

The uses to which the rose may be put in the decoration of the flower garden are many. The dwarf Hybrid Perpetuals, Hybrid Teas, Teas, Chinas, Polyanthas, Moss, and Cabbage types may be utilised for massing in beds in conjunction with standards and half-standards; or standards and half-

^{*&}quot; Roses and their Cultivation," price 2s. 6d. Published by W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.

standards may be grown in separate small beds 3ft. wide round the fringe of the lawn. Banks may be utilised to good advantage for growing the Scotch and the Wichuriana types of roses; hedges or screens formed of the Hybrid Sweet Briars and the Japanese roses; trellises, arbours, or arches clothed with free-growing and free-blooming roses of the Rambler types; and walls and fences covered with climbing Teas, Hybrid Teas and Noisettes; old tree-stumps and tree-trunks covered with free-growing Ayrshire and evergreen roses; in fact, so cosmoplitan is the rose in its numerous forms, that it may be put to no end of uses in the flower garden. If the reader has a wild garden he may mass together the Hybrid Sweet Briars and the Japanese roses, and get a beautiful effect.

Roses are divided into two main sections—summer flowering and autumn blooming. In the former section are included the Provence or Cabbage roses; the Moss; French or Damask, like the Crimson Damask; Hybrid China, Bourbon and Noisette, as Madame Plantier or The Garland; Austrian Briar, as Austrian Yellow and Persian Yellow; Scotch roses; Hybrid Sweet Briars like Lady Penzance; Ayrshire, like Dundee Rambler; Boursalt, as Amadis; Banksian roses; Evergreen roses, like Félicité perpetue; and Climbing Polyanthas, like Crimson Rambler. In the latter section are the Hybrid Perpetuals, like John Hopper; Hybrid Teas, as La France; Teas, as Gloire de Dijon; Chinas, like Madame Laurette Messmy; Noisettes like W. A. Richardson; Polyanthas like Perle d'Or; and Wichuriana roses, like Dorothy Perkins. The first flower once only, and the second twice in summer and again in Thus, by selecting varieties from the two sections a continuous display of beautiful and fragrant flowers is assured from June to October.

For massing in beds the following brief selections are recommended: Ard's Rover, crimson; Heinrich Schultheis, rose; Jules Margottin, red; Marie Finger, salmon; Clio, flesh; Rev. Alan Cheales, lake and white (H.P.'s); Killarney, pink; Gruss an Teplitz, crimson; Madame Abel Chatenay, salmon pink; Madame Jules Grolez, yellow and rose; Liberty, crimson; Grace Darling, cream and pink (H.T.'s); Madame Laurette Messimy, rose and yellow; Queen Mab, apricot and orange (Chinas); Francisca Kruger, peach and yellow; Homère, rose; Isabella Sprunt, yellow; Lucy Carnegie, carmine; Madame Falcot, apricot; Mrs. B. R. Cant, rose (Teas); Cecile Brunner, blush pink; Georges Pernet, peach and yel-

low; Perle d'Or, nankeen yellow (Polyanthas).

For standards, General Jacqueminot, crimson; La France, rose; Gloire de Dijon, buff; W. A. Richardson, orange-yellow;

Mrs. John Laing, pink; Maman Cochet, rose; Marie Van Houtte, yellow and rose; Marquise Litta, carmine-rose; Caroline Testout, salmon-pink; Kaiserin Augusta Victoria, cream; Dupuy Jamain, cerise; and Fisher Holmes, crimson scarlet.

For covering arbours, pergolas, trellises and arches the following are advised: Aglaia, yellow; Bennett's Seedling, white; Crimson Rambler, crimson; Dundee Rambler, white and pink; Euphrosyne, pink; Félicité perpetue, white; Leuchstern, rose; Longworth Rambler, crimson; Madame Berard, fawn yellow; Dorothy Perkins, pink; Queen Alexandra, rosypink; and Thalia, white.

For walls and fences: Maréchal Niel, yellow; Gloire de Dijon, buff; Rêve d'Or, yellow; W. A. Richardson, orange yellow; Bouquet d'Or, coppery-yellow; and Madame Alfred

Carriere, white and yellow.

For growing as pillar roses, Alister Stella Gray, yellow; Billiard et Barre, golden-yellow; Electra, canary-yellow; Paul's Carmine Pillar; Ard's Rover, crimson; and Wallflower, rosy-

crimson, are good kinds.

Then for a north or an east wall, Amadis, crimson, is a good rose. For covering tree-trunks the Ayrshire and Evergreen roses are well suited. For tree-stumps and banks the Wichuriana roses, as Alberic Barbier, and Jersey Beauty, are suitable. Good kinds to grow on tall standards as weeping roses are Dorothy Perkins, Aimie Vibert, Crimson Rambler,

Félicité perpetue, Myrianthes Renoncule, and Flora.

A word as to culture. Roses prefer a good loamy soil. If the soil should be very heavy clay, trench it deeply, add plenty of decayed refuse, rotten manure, burnt ashes, etc., to lighten it. If light or sandy, add clay and plenty of decayed cow manure to consolidate it. Planting is best done in October or November, or in March or April. Avoid winter planting. Standards should be 3ft. apart, and dwarfs 18in. asunder. Pruning should be done in March or April, commencing first with roses on walls, then with the Hybrid Perpetuals, Moss, and Provence roses, finishing up in April with the Teas, Hybrid Teas, Chinas, and Polyanthas. The moderate growing H.P.'s should be pruned to 3in.; Moderate H.T.'s to 4in.; moderate Teas to 3in. Vigorous H.P.'s should be pruned to 8 or 10in.; Il.T.'s to 6 or 8in.; Teas, 6 to 9in.; very vigorous H.P.'s to 18 or 20in.; H.T.'s 15 to 24in.; Teas, 2 to 3ft. In all cases cut weak or sappy growths. China, Miniature Pompon, Moss and Cabbage roses need to have weak growths removed and other shoots shortened one-half their length. The Austrian Briars, Scotch, and Hybrid Sweet Briars, Banksian, and Japanese roses only need to have dead and weak wood removed. The Noisettes require pruning like the very vigorous Teas. All the Rambler type only require the old flowering wood to be thinned out after flowering, leaving the

young growths untouched.

As regards propagation, this may be effected by cuttings inserted in a cold frame in autumn or in a sheltered border; also by budding in July. For fuller details see "Roses and their Cultivation."

Rubus (Bramble).—This genus includes the Blackberry, Wineberry and Raspberry, well-known fruiting plants, but we shall not deal with these here. The species we shall refer to are those noted for 'he beauty of their flowers, as R. biflorus, bearing large white flowers in May, golden fruit later, and with white shoots; R. deliciosus, with large white flowers borne in May; R. nutkanus, large white flowers borne in August; R. odoratus, purple-rose, June to August; and R. spectabilis (Salmon Berry), red, May. The foregoing bear edible fruit as well as beautiful flowers. They are more suitable for the wild or the woodland garden than the shrubbery. Plant in autumn. R. arcticus is a dwarf species, growing 6in. high, and bearing rosy blossoms in June. This species is suitable for rockery culture in ordinary soil. Increased by suckers and division in autumn. Nat. Ord. Rosaceæ.

sophora (Pagoda Tree; New Zealand Laburnum).—A genus of pea-flowered deciduous trees and shrubs, belonging to the Nat. Ord. Leguminosæ. S. tetraptera (Syn. Edwardsia tetraptera) is a species from New Zealand, growing 6 to 10ft. high, and bearing yellow flowers in long racemes at the ends of the branches in May. This species can only be grown against a warm wall in the southern districts. S. japonica is a beautiful species, growing 30ft. or more high, and furnished with pinnate foliage, and creamy-white flowers borne in panicles in September. The variety pendula has graceful drooping branches. A splendid flowering tree for the lawn or mixed shrubbery. A deep sandy loam will suit both kinds. Plant in autumn. In the case of the species grown on walls, thin out the old shoots after flowering. Increased by seeds and layering.

spartium (Spanish Broom).—S. junceum is a beautiful hardy evergreen flowering shrub from the Mediterranean region, and a member of the Pea order (Leguminosæ). It grows from 6 to 10ft. high, and bears clusters of lovely fragrant golden-yellow blossoms in summer on rush-like shoots. One of the showiest shrubs for massing on banks, in odd corners, or in the mixed shrubbery. Will grow in any soil. Plant in autumn. Increased by seeds scattered about and raked in

where required to grow; or in shallow drills in a border, lifting the seedlings two years afterwards; also by cuttings in sandy soil in a cold frame in summer.

Spiræa (Shrubby Meadowsweet).—The Spiræas pretty, free flewering, hardy deciduous shrubs, belonging to the Rose order (Rosaceæ). The herbaceous species are dealt with elsewhere. The following are very beautiful: S. arguta, a hybrid between S. Thunbergi and S. multiflora, and furnished with graceful shoots studded with small white blossoms in May. Height 3 to 4ft. A fine shrub for small gardens. bella, a Himalayan species, growing 3ft. high, and bearing red flowers in corymbs along the shoots in July. Suitable for small gardens. S. discolor (Syn. S. ariæfolia) comes from N.W. America, grows 8ft. high, and bears white flowers in large drooping, spray-like panicles in summer. A most beautiful shrub to grow as a specimen on the lawn or in the mixed shrubbery. S. Douglasii is also an American species, growing 3ft. high, and bearing rosy flowers in dense spikes in August. Very suitable for the mixed shrubbery in large or small gardens. S. japonica (Rosy Meadow Sweet) is a Chinese species, growing 3ft. high, and bearing rosy-red flowers in flat corymbs in July. Bumalda, rose-pink, 2ft.; Anthony Waterer, purple-red; and alba, white, 1ft., are pretty varieties of the latter. S. lindleyana, a native of the Himalayas, 6 to toft., bears white flowers in large plumy clusters in August. It also has elegant pinnate foliage, and is a very beautiful species when grown in a warm position. S. prunifolia comes from Japan, grows 4ft. high, and bears white flowers in clusters. There is a pretty double-flowered variety named flore pleno. S. Thunbergi is a dwarf Japanese species, I to 3ft. high, with small leaves and slender stems wreathed with white flowers in April. A charming kind for a small garden. S. Van Houttei grows about 6ft. high, and bears a profusion of white flowers in May. A good kind for the mixed shrubbery. The shrubby spiraes will succeed in good ordinary soil, and S. lindleyana will also do well on chalky soils. Plant in autumn. All the species, except S. arguta, which only needs the removal of a shoot here and there, to keep it in good shape, should be pruned directly after flowering, cutting away the shoots that have flowered, and leaving the young growth intact to flower the next season. Increased by cuttings of the young wood placed in sandy soil in a cold frame in summer; also by layering in autumn.

Staphylea (Bladder Nut).—Hardy deciduous flowering shrubs, belonging to the Horse-chestnut family (Sapindaceæ). S. colchica, a native of the Caucasus, has divided leaves.

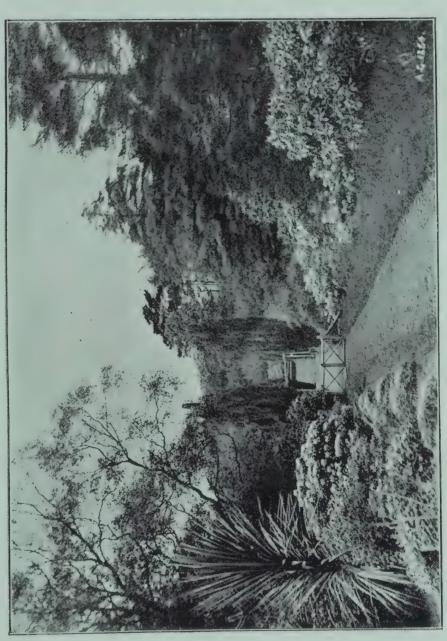
grows 3 to 4ft. high, and bears white flowers in long terminal racemes in summer. There are other species, as S. pinnata, S. Bumalda, etc., but they are not so attractive as the one described. This may be grown in the mixed shrubbery or in beds on the lawn in partial shade. Plant in autumn in good ordinary soil. Increased by seeds, cuttings and layers.

Stuartia.—Hardy deciduous shrubs, belonging to the Camellia order (Ternstræmiaceæ). The species named below are very beautiful when in flower. S. pentagyna (Malachodendron ovatum) grows 4 to 8ft. high, is a native of N. America, and bears creamy-white flowers in May and June. S. pseudo-camellia comes from Japan, grows 6 to 10ft. high, and bears creamy-white flowers surrounded by reddish-brown sepals in July. S. virginica is a native of N. America, grows 6 to 8ft. high, and bears white flowers with red stamens in June. The Stuartias are adapted for culture in mild districts only, and should be grown in peat and loam in sheltered beds. No pruning required. Plant in autumn. Increased by layering in autumn.

Styrax (Storax).—Hardy deciduous shrubs or trees, belonging to the Nat. Ord. Styraceæ. There are a number of species, but the only ones we consider worthy of note are: S. Obassia, a Japanese species, with reddish branches and large white bell-shaped flowers borne in long drooping panicles in spring; and S. japonica, a species of dense habit, growing 8 to 10ft. high, and bearing a profusion of white flowers in summer. The flowers of both species are highly fragrant. Both should be grown preferably in beds in a sheltered spot on the lawn, and in a deep, moist sandy loam. Plant in autumn. No pruning needed beyond thinning out weak growths in winter. Increased by layering in autumn.

Symphoricarpus (Snowberry).—S. racemosus is the Common Snowberry of gardens. This bears rosy flowers in summer, succeeded by large white berries in autumn and winter. S. vulgaris or orbiculatus (Coral Berry) bears red and yellow flowers in summer and white berries in winter. Of this there is a variegated kind, foliis variegatis, with leaves variegated with green, yellow and white. This is a handsome shrub deserving of a place in every shrubbery. The species are too coarse to grow in small gardens, and only suited for large mixed shrubberies. Plant in autumn in ordinary soil. Increased by seeds sown in the open border; also by suckers. Natives of N. America and members of the Honeysuckle order (Caprifoliaceæ).

Syringa (Lilac).—Beautiful flowering hardy deciduous shrubs, belonging to the Olive order (Oleaceæ). The Common Lilac (S. vulgaris) is a native of Persia, and has been grown for hundreds of years in our gardens. The species bears lilac or purple flowers in May, and its variety alba white ones. Beautiful, however, as the Common Lilacs are, they are far surpassed in beauty by the many lovely single and double varieties reared by the French florists, who are experts in Lilac culture. The best of these are: Marie Legrange and alba grandiflora, whites; Charles X., reddish-pink; Virginité, pale pink; and Souvenir de L. Späth, crimson-purple, all single-flowered; and Alphonse Lavallée, bluish violet; Madame Lemoine, pure white; and President Grevy, bluish-rose, double flowered. No flowering shrubs can equal a group of these planted in a sunny nook on the fringe of a lawn, or in a shrubbery or bed, in beauty or fragrance in May; they are superb. Besides the Common Lilac and its varieties, there are several species possessing much interest and beauty. Thus, the Persian Lilac (S. persica) is a very fine species, forming a neat bush 4 to 7ft. high, and bearing bluish or white flowers in May. Then there is the Rouen Lilac (S. chinensis), a supposed hybrid, which grows 4 to 6ft. high, and bears deep violet flowers in June. Its varieties alba, white; metansis, pale lilac; and sanguinea, rosy-lilac, are also extremely pretty. Other interesting species are S. Emodi, an Indian species, bearing purplish or white flowers in dense clusters in May; E. Josikæa, a Hungarian species, a Mayflowering, bluish-purple kind; S. amurensis, a Japanese species, with creamy-white flowers, and S. japonica (Japanese Lilac), a species bearing white flowers in large branching panicles in June. All the foregoing are of similar habit to the Common Lilac, and bear deliciously scented flowers. Lilacs are popular favourites, and consequently are planted extensively in gardens. A large proportion of these shrubs fail to flower, partly because they are planted in shady spots, overcrowded by other shrubs, severely pruned in winter, or have their young shoots trimmed in summer, or are allowed to produce a thicket of suckers at the roots. To grow Lilacs well, and to induce them to flower freely, they must be planted in an open supply spot, in good soil well enriched with rotten No pruning must be done in winter except to cut out dead or weak wood. The pruning should be done directly after flowering, then shortening each shoot that has borne flowers to a couple of inches from its base, or to the nearest strong young shoot developing near the base. The flowers are borne on the shoots of the preceding year's growth. All suckers should be promptly removed. Each winter top-dress



A PICTURESQUE SHRUBBERY.

View in the garden of Ardnamona, Lough Eske, co. Donegal, Ireland.



A BEAUTIFUL HARDY DECIDUOUS TREE (CORNUS MACRO-PHYLLA).

A handsome hardy foliage tree growing twenty to forty feet high. Suitable for lawns. Requires a moist soil. Omitted in the text.

with a good dressing of rotten manure, and on no account trim off the points of the young shoots. Lilacs want plenty of nourishment, light and air. They are increased by cuttings of firm shoots 6in. long inserted in sandy soil outdoors in October; and by suckers, removed in autumn. In selecting suckers or cuttings, avoid taking them from shy flowering bushes; take them only from those that flower freely. Grafted or budded trees are often short-lived, and these, too, should be avoided.

Tamarix (Tamarisk).—The Tamarisk is a popular seaside shrub, thriving better than most shrubs quite close to the sea. It also does well in inland gardens. T. gallica is a native evergreen species, growing 6 to 8ft. high, with heathlike feathery foliage, and pink flowers borne in summer. Other species which are suitable for gardens are T. chinensis, a Chinese species, with graceful feathery foliage and pink flowers; and T. tetranda, a Caucasican species bearing pinkishwhite flowers. T. chinensis, being somewhat tender, should be grown in a sheltered position; the others will succeed in the mixed shrubbery in ordinary soil. Plant in autumn. Increased by seeds or by cuttings of side shoots in a cold frame in summer.

Ulex (Gorse, Furze or Whin).—Native evergreen shrubs, suitable only for large gardens, where they can be grouped in bold masses. There are two species, the Gorse (U. europæus) and its double-flowered variety flore pleno, which bears yellow flowers in winter and early spring; and the Cat Whin or Tam Furze (U. nanus), a dwarf species, which flowers in autumn. These will grow in poor soil on dry banks, and they are best raised from seed scattered about where they are required to grow.

Vaccinium (Cowberry or Whortleberry).—V. Vitis-Idæa is the native Cowberry or Whortleberry of our northern moors or heaths. It is a low trailing evergreen shrub, bearing rosywhite blossoms in drooping racemes, followed by red currant-like fruits. A pretty plant for the rockery. Plant in moist peat in autumn. Increased by seeds and layers. It belongs to the Cranberry order (Vacciniaceæ).

Veronica (Shrubby Speedwell).—In addition to the herbaceous species described elsewhere there are a few evergreen shrubs which are very pretty when in flower. They belong to the Foxglove order (Scrophulariaceæ). V. Andersoni grows about 18in. high, and bears bluish-violet flowers in summer. Variegata is a prettily variegated form of it. V.

Traversii is a neat growing New Zealand species, with small narrow leaves and lilac-white blossoms. Another good kind is V. salicifolia, with willow-like leaves and bluish-white blossoms. These do well in seaside gardens and also in inland sheltered gardens. Grow in sandy loam or good ordinary soil in sunny warm borders. Plant in May or September. Increased by cuttings in sandy soil in a cold frame in autumn.

Viburnum (Snowball Tree; Guelder Rose; Laurustinus). -Deciduous and evergreen trees or shrubs, belonging to the Honeysuckle order (Caprifoliaceæ). The Guelder Rose (V. opulus) is a native tree too common to grow in gardens. Its variety sterile is, however, grown, and this is the Guelder Rose or Snowball Tree of gardens. This has sterile flowers and white bracts, which are it chief attraction. A variegated form of it with white and yellow leaves is pretty. V. plicatum is a Japanese variety, which bears sterile white flowers in globular heads in June. V. macrocephalum is a large and sterile flowered species from China. The foregoing are deciduous. V. tinus (Laurustinus) is a well-known evergreen shrub, which bears white flowers in trusses during the winter. There are several varieties of it. The Guelder Roses are pretty shrubs to grow in the mixed shrubbery in sunny positions. They will succeed in ordinary soil, and should be planted in autumn. In winter thin out the weak wood, but do not shorten the young growths. The Laurustinus requires a warm sheltered position as, coming from the Mediterannean region, it is liable to be injured by severe frosts. It will grow in any ordinary soil, and is best planted in May or September. This shrub requires no pruning. Increased by cuttings of half-ripened shoots in a cold frame in September, or layering in October.

Zenobia.—Z. speciosa (Syn Andromeda speciosa) is an evergreen flowering shrub of American origin, and belonging to the Heath order (Ericaceæ). It grows about 2ft. high, and bears white lily-of-the-valley-like flowers in summer. A pretty shrub to grow in conjunction with other peat-loving shrubs. Plant in September. Increased by layering in autumn.

HARDY ORNAMENTAL TREES AND SHRUBS.

Abies (Silver Fir).-Lofty-growing evergreen trees, belonging to the Conifer family (Coniferæ). Some of them make very handsome ornamental trees for the lawn. Owing to their great size they are scarcely adapted for gardens of limited extent. Nor are they suitable for town or suburban gardens, as they cannot withstand a smoky atmosphere. All the species do best in a sandy loam and in elevated positions away from the sea-coast. Increased by seeds sown outdoors in April, or in boxes of sandy soil in a cold frame. Planting is best done in October or the following April. The best species to grow as specimens on a lawn are A. amabilis (Red Fir), 100 to 150ft., British Columbia; A. balsamea (Balsam Fir), 70 to 80ft., N. America; A. concolor, 100ft. California; A. grandis, 200ft., California; A. nobilis (Noble Silver Fir), 200ft., California; A. pectinata (Common Silver Fir), 8oft., S. Europe; A. Pinsapo (Spanish Silver Fir), 6o to 8oft., Spain; A. Veitchii, 120ft., Japan; and A. webbiana, 80 to 90ft., Himalayas. See also the genus Picea.

Acer (Maple and Sycamore).—This genus is composed of a number of very handsome tall and dwarf ornamentalleaved deciduous trees, belonging to the Nat. Ord. Sapindaceæ. The more vigorous growing species, such as the Common Maple (Acer campestre) and the Sycamore (Acer Pseudo-platanus) are better suited for the rough shrubbery or plantation where a good screen from unsightly objects is needed. Other tall sorts, as the Silver Maple (Acer dasycarpum), having leaves of a blue-white beneath, and growing 30 to 40ft. high; Norway Maple (Acer platanoides) with its varieties, the Eagle's Claw or Hawk's-foot Maple (A. p. laciniatum), and Albo variegatum, leaves variegated with white; and the Sugar or Bird's Eye Maple (Acer saccharinum), 50 to 8oft., are also suitable for shrubberies or single specimens on Then among smaller kinds there is the Box Elder (Acer Negundo variegatum), a species with lovely silvery foliage, and which may be grown as a bush or a low standard. This is a charming kind for small or large gardens. There is also a golden-leaved variety. Prettiest and most interesting of all the Maples are the Japanese kinds. Of these Acer

japonicum, with ten-lobed red leaves; A. palmatum (Syn. A. polymorphum) and its varieties atropurpureum, purple-leaved; crispum, green with red stalks; dissectum, leaves finely serrated and green; ornatum, finely cut red leaves with light midribs; aureum, golden-leaved; and sanguineum, reddishcrimson leaves, represent a fair selection of dwarf trees suitable for growing in beds or in the front of sheltered shrubberies. Two other species from North America must not be omitted from our list. A. circinatum has beautifully cut foliage, which changes to a vivid scarlet colour in autumn; and A. rubrum (Red Maple), with crimson flowers and red keys, and its young foliage of a reddish tinge in spring. The two last-named may be grown in the choice shrubbery or as specimens on the lawn. The Common Maple and Sycamore will thrive in any soil; the others prefer a good sandy loam and well-drained site. Plant in autumn. As to propagation it will be wiser for the amateur gardener to purchase what he requires from the nursery than attempt to grow his own.

Ailanthus (Tree of Heaven).—A handsome ornamental-leaved deciduous tree, a native of China, and belonging to the Nat. Ord. Simarubaceæ. The leaves are pinnate or feather-shaped and often grow 6ft. in length. This tree invariably does well in town and suburban gardens, and also makes a handsome specimen grown singly on lawns, or in conjunction with others in the shrubbery. In small gardens where a dwarf tree is desired young trees should be cut down annually in winter, and one shoot only allowed to develop. Plant in autumn in ordinary soil, not too dry. In small gardens where a screen tree is desired, plant 5ft. apart and the trees will rapidly attain a good height. Increased by slips or suckers of the roots.

Alnus (Alder).—Deciduous trees of no special merit. They belong to the Birch family (Betulaceæ). The Common Alder (A. glutinosa), a native of Europe, does well by the side of streams, and often thrives in seaside gardens, where it is used as a nurse to more valuable trees. There are two or three very pretty varieties worthy of culture in gardens, namely, aurea, golden-leaved; incisa, cut leaved, laciniata, with drooping branches and fern-like leaves; quercifolia variegata, variegated. Planting is best done in autumn. Propagation is effected by seeds, and in the case of the choice kinds by grafting

Aralia.—Hardy or half-hardy deciduous shrubs, belonging to the Nat. Ord. Araliaceæ. A. chinensis (Syn. Dimorphanthus mandschuricus) grows about 6 to 10ft. high, and has

alegant, divided spiny leaves. There is also a pretty, silveryleaved variety of it. Require a sheltered spot and loamy soil. A. spinosa (Angelica Tree) grows about 12ft. high, has large divided leaves, and bears large panicles of white flowers in autumn. Will grow in any soil; adapted for large gardens only. Easily increased by suckers. A. Sieboldii, better known as Fatsia japonica, succeeds outdoors in the South of England and in Ircland. Should be grown in the shade only.

Araucaria (Monkey Puzzle; Chili Pine).—A symmetricalgrowing, evergreen tree, belonging to the Conifer family (Coniferæ). A. imbricata, the only hardy species, is a native of Chili, and was first planted extensively in England about 1844. Many of the original trees are still flourishing. The Araucaria is not a suitable tree for suburban gardens. It should only be planted in large gardens or parks where there is plenty of light and air, and where the soil is deep, welldrained, and of a loamy nature. Nor should it be planted on shallow soils. In such soils, after a few years, it loses its lower leaves and becomes ugly. Plant in April or September. Increased by seeds.

Arbutus (Strawberry Tree).—A genus of evergreen trees or shrubs belonging to the Heath family (Ericaceæ). The best-known species is A. Unedo, a native of S. Europe, and naturalised in Ireland. This grows 10 to 20ft. high, has narrow serrulated leaves, and bears pretty white flowers in autumn, succeeded by scarlet strawberry-like fruits, usually ripe in winter. In Ireland the countryfolk eat the fruit. A handsome shrub for average-sized gardens. Does best in light loamy or chalky soils. Requires a warm, sheltered position. There are several varieties of it in cultivation, to wit: coccinea, scarlet-flowered; rubra, red-flowered; and Croomii, large leaves and reddish-pink flowers. Another good species is A. Andrachne, a native of the Levant. This grows 10 15ft. high, has reddish deciduous bark, and bears greenish-white flowers in May, succeeded by fruit similar in colour and shape to that of A. Unedo. Requires similar soil and position to the latter species. Both species may be increased by seeds sown in pots of sandy peaty soil in a cold frame as soon as ripe. The trees do not flower till they are six or seven years old. Also increased by grafting and by cuttings of young wood inserted in sandy peat under a bell glass in a cold frame in summer.

Arundinaria (Bamboo).—The genus of plants belongs to the Grass family (Gramineæ), and with two other genera.

Bambusa and Phyllostachys, are popularly known as Bamboos. They are most graceful plants, with long, straight terete stems furnished with side branches. They show to best advantage when planted in bold groups on the lawn in some sheltered nook or dell, or near the margin of a lake or pond. A rich, deep, moist, loamy soil, not too heavy or too wet, is essential to grow these plants well. A position sheltered from east or north-east winds is also desirable. We have seen these handsome plants thrive well in suburban gardens. The best time to plant is in May. On no account plant in autumn or winter. Propagation may be effected by division of the rootstocks in May. Annual top-dressings of decayed cow manure should be given in autumn, and it is also a good plan to place a thick layer of the leaves round the base of the plants The following are to afford protection to them in winter. the best-known kinds: A. anceps, slender, very hardy, 8ft.; A. auricoma, leaves striped with yellow, 3 to 4ft.; A. Fortunei, leaves striped with white, very hardy, 2 to 3ft.; A. japonica, leaves large, very hardy, 8 to 12ft.; A. nitida, stems purple, leaves a vivid green, 8 to 10ft., very elegant; A. Veitchii, a dwarf species, 1 to 2ft. Natives of Japan.

Aucuba.—A genus of laurel-like evergreen shrubs, with green or variegated foliage, a native of Japan, and a member of the Dogwood family (Cornacea). The Aucuba is one of the best of evergreen shrubs for growing in town and suburban gardens; it withstands a smoky atmosphere better than any other shrub, is remarkably easy to grow, and will thrive in almost any soil or position. Besides having handsome foliage, mottled or reticulated with green, creamy and golden-vellow, some of the plants also bear bright scarlet berries. There are distinct male and female varieties, and it is of course the latter which bear the fruit. In purchasing Aucubas, therefore, care should be taken to have one or two male plants to grow with the female ones in order to ensure a crop of berries. A. japonica is the common species, with mottled foliage. Of this there are male varieties—picta, bicolor, sulphurea and ovata—with variegated foliage, and vera and grandis with green foliage; also female varieties, as sulphurea, aurea marginata and latimaculata with variegated foliage, and longifolia, vera and angustifolia, green foliage; likewise luteocarpa, with yellow berries. These shrubs may be planted in autumn or early spring. As they increase in size make a point of 9'ortening any straggly shoots so as to keep the shrub in a good shape. April is the best time to do this. Aucubas may be increased by seeds sown in sandy soil in pits or boxes in a cold frame; by cuttings inserted in sandy soil in a cold frame in September; by layering the shoots in summer.

Azara.—Evergreen shrubs with graceful foliage, belonging to the Nat. Ord. Bixaceae. In the South they may be grown in the open garden, but in other parts they require the protection of an east, west, or south wall. A. microphylla is the best-known species. This has small dark green leaves, bears fragrant greenish flowers and orange-red berries. It makes a pretty wall plant. A. Gilliesii has holly-like foliage, reddish shoots, and bears bright yellow flowers. A. dentata is a rapid grower; flowers yellow. They are natives of Chili. Grow in sandy loam and train the branches to a wall. Plant in early autumn or in April. Increased by cuttings inserted in sandy loam in a cold frame in autumn.

Bambusa (Bamboo).—Graceful-leaved woody-stemmed grasses, allied to and requiring the same cultural treatment as the Arundinarias, which see. The few species worthy of note here are: B. arundinacea, 50 to 60ft, high, leaves pale green; B. aurea, 6 to 10ft., foliage green and yellow; B. marmorea, 3 to 4ft., foliage green; B. tessellata, 3 to 4ft., green.

Betula (Birch).—Of all our native trees none can compare with the silvery-barked birch in the grace, beauty and elegance of its growth. Whether we see it in a small forecourt garden, in a suburban back garden, in the shrubberies, parks, woodlands, or on the common, its graceful drooping branches ever show the beauty of the tree to advantage. what is true of the Common Birch (Betula alba) is equally true of the varieties, laciniata pendula, a cut-leaved weeping form: fastigata, a more or less erect grower; latifolia, a broad-leaved form; pendula Youngi, a graceful weeping kind, one of the best; and purpurea, a purple-leaved sort. Birches should be planted in preference to the Common Lime in small gardens, and wherever possible a place should be found for the weeping form Youngi, the cut-leaved lacinata, and the purple-leaved purpurea. Birches will succeed in moist soils near water or in ordinary garden soil. Plant in autumn or winter. The common kind is increased by seed, the others by grafting on the former. Nat. Ord. Betulaceæ.

Buxus (Box).—Hardy evergreen trees or shrubs, belonging to the Euphorbia order (Euphorbiaceæ). The best known species is the Common Box (B. sempervirens), a native of England, and to be seen growing wild in quantities on Box Hill, near Dorking, in Surrey. Of this there are numerous varieties, namely: Argentea, leaves variegated with silver; aurea, leaves variegated with yellow; marginata, leaves margined with yellow; Handsworthii, leaves broad and deep-coloured; myrtifolia, leaves small, oblong and narrow; rosmarinifolia, leaves narrow and habit dwarf, like a Rosemary; suffruticosa, leaves small and habit dwarf, the kind used for edgings; and thymifolia, leaves very small. Other species are the Minorca Box (B. balearica), a very handsome shrub of pyramidal habit, growing 10 to 15ft. high, and with large, vellowish-green, coriaceous leaves; B. Fortunei, growth erect, leaves long and narrow, a native of China; B. japonica; B. japonica aurea, golden variegated; B. japonica microphylla, small-leaved, all handsome shrubs. B. balearica is a native of South Europe, and B. japonica of Japan. The common species will succeed in any light or gravelly soil on elevated or level land, and while it will succeed under the shade of trees, it does not thrive so well as in an open sunny position. The varieties require a well-drained soil and a sunny position, where they are not likely to be crowded by other shrubs. The dwarf edging box will thrive almost anywhere because the adjacent walks usually keep the roots sufficiently dry in winter. The Minorca Box must be grown in a sunny sheltered position where the subsoil is well drained and the soil dry in winter. The same remarks apply to the other species. The best time to plant box is in September or April. The shrubs should be planted as quickly as possible after their arrival. If the roots are allowed to get dry and shrivel, the leaves will fall off and the beauty of the bushes be spoiled. If planting be done in dry weather, give a good watering directly after wards, and syringe the bushes every evening. The Common Box may be grown as a hedge on light or gravelly soils, but as the yearly growth is small it takes many years to ensure a good hedge. The ground should be trenched 3ft. wide and 2ft. deep, and the box, which should be a foot high, be planted a foot apart in September or April. Box is easily trimmed into shape annually in April and August. Hedge plants cost about 25s. per 100, and the approximate cost of planting is 9d. per lineal yard. With reference to box edging, plants suitable for this purpose are sold by the lineal yard at 6d. per yard, and one nursery yard, when divided, will suffice to plant three lineal yards. In planting box edging the first thing is to level the soil and beat it down firmly. The next step is to stretch a line where the proposed edging is to be, and then to cut out a vertical trench 6in. deep. The plants are then to be separated into small pieces, each furnished with roots, and placed against the side of the trench. Keep the tops of the plants 2in. above the soil and pack soil firmly against the roots and stems. When the edging is finished, fill up with soil and make firm. Autumn or March is the best time to plant. Trim the edging in April and August annually. Box may be increased

by cuttings inserted in a shady border in September; by layering the branches in autumn; and the dwarf box by division in autumn.

carpinus (Hornbeam).—The Hornbeam (C. Betulus) is a native deciduous tree, growing 30 or more feet high, and much utilised for forming hedges on account of its readily adapting itself to close cutting and trimming. It belongs to the Nat. Ord. Cupuliferæ. There are several varieties of it, which are the only ones worth planting in the shrubbery or on the lawn. These are aurea variegata, golden-leaved; incisa, cut-leaved; quercifolia, oak-leaved; and variegata, variegated. With regard to the use of Hornbeam as a hedge shrub, plant the shrubs 3ft. apart in autumn in deeply trenched soil, and cut the side shoots well back every autumn. Privet is sometimes planted alternately with the Hornbeam. Not suitable for chalky or light soils, only for heavy and damp ones. The common species is increased by seeds sown in autumn, and the others by grafting on the common kind in March.

Carya (Hickory).—Hardy deciduous trees with walnutlike foliage, natives of N. America, and belonging to the Walnut order (Tuglandaceæ). Most of them are robust-growing trees and hence only adapted for large gardens. They have elegant pinnate foliage, which assumes a beautiful rich tint in autumn, and when they attain a fair size make highly ornamental trees on a lawn. There are many species, but those we are about to mention are the best for the average garden. C. alba (Shell Bark Hickory) has leaves 18in, long, and the tree grows up to 8oft, in height. C. amara (Bitter Nut or Swamp Hickory) is a handsome species; height 50ft. C. olivæformis (Pecan Nut) is of dwarfer growth, but otherwise similar to the last-named species; height 30ft. C. tomentosa (Mocker Nut) has elegant foliage, which is tomentose when young and possesses a resinous fragrance. Height 6oft. All the foregoing species, when fully grown, bear edible nuts, but they rarely ripen sufficiently to be palatable. of C. amara are very bitter. The nuts of the Shell Bark Hickory are very delicious when properly ripened. natives of moist woods they naturally prefer a deep, rich and not too dry soil. Plant in autumn. Caryas are difficult trees to transplant, having only tap-roots in a young state. Increased by nuts sown, if possible, where required to grow in autumn.

Caryopteris.—C. Mastacanthus is a shrubby perennial, belonging to the Verbena order (Verbenaceæ). It is a native of China, grows 2ft. high, has serrated downy or greyish foliage and purplish stems, and bears rich violet flowers in

autumn. There is also a white form of it. This is a very ornamental plant, but being somewhat tender it requires to be grown in well-drained ordinary soil in a warm corner of the garden. In less mild districts it should be grown against a south wall. Plant in March. In winter mulch heavily with dry litter. Requires copious supplies of water in summer. Increased by seeds or cuttings in heat in spring, or division in March.

Cassinia (Golden Heath).—A new generic name for an old garden friend, Diplopappus chrysophyllus. C. fulvida is a native of New Zealand and a member of the Daisy order (Compositæ). It is an evergreen of slender growth, with narrow, heath-like leaves, of a deep green on the upper and golden-yellow on the under-surface. Height 2 to 3ft. The flowers are small and yellow in colour. This attractive plant requires to be grown in a sheltered, well-drained border, preferably at the base of a south wall, and in a peaty soil. Plant in spring. Increased by seeds sown in sandy peat in a cold frame in autumn or spring; also by half-ripened shoots 3in. long inserted in sandy peat under a handlight, or in a cold frame in autumn.

Castanea (Sweet Chestnut).—The Sweet or Edible Chestnut tree is almost too well known to need any description here. C. sativa, the species above referred to, is a deciduous tree, a native of Asia Minor, and has been grown in our parks and woods for hundreds of years. It is a noble and handsome tree to plant in large pleasure gardens and parks, but not suitable for the average small garden. It does not thrive on chalky or heavy soils, but on those of a gravelly or stony nature it generally does well. Plant in autumn. Increased by sowing the nuts in ordinary soil outdoors when ripe. Nat. Order Cupuliferæ.

Cedrela (Bastard Cedar).—A hardy deciduous and ornamental foliaged tree, a native of China, and a member of the Nat. Ord. Meliaceæ. C. sinensis, also known as Ailanthus flavescens, is similar in habit and foliage to the Tree of Heaven (Ailanthus glandulosa), but not so vigorous a grower. It is a handsome tree to grow on a lawn in town or suburban gardens. Any fairly good soil will suit this tree. Plant in autumn. Increased by root cuttings. As yet but little grown in Britain.

Cedrus (Cedar).—The Cedar of Lebanon (C. Libani); Atlas Cedar (C. atlantica); and the Deodar Cedar (C. Deodara) are three well-known conferous trees. Some very fine specimens of the first-named exist in old gardens. This and the

Atlas Cedar are of similar habit, and as they attain a very large size they should only be planted in large gardens where, as years roll cn, there is plenty of room for them to develop. The Deodar is of a more lofty and less spreading habit, consequently may be planted in small as well as large gardens. None of the cedars are suitable for town gardens or smoky suburbs. Most conifers dislike sooty matter accumulating on their foliage, and the cedars especially so. None of the cedars should be planted on low-lying, damp and heavy soils, but on those of a well-drained more or less gravelly soil. Plant in September or October. It should be borne in mind when planting the Deodar Cedar that it grows rapidly, and therefore must be planted at least 15 to 20ft. from paths or other trees, otherwise its symmetry and beauty will be spoiled. It is a mistake to plant this beautiful tree in a mixed shrubbery. as is so often done. As regards propagation, it will be more satisfactory to buy trees from a nursery than attempt to rear them at home.

Celtis (Nettle Tree).—Deciduous, ornamental-leaved trees, belonging to the Nettle family (Urticaceæ). They possess no special features, and are really only suitable for growing at the back of large shrubberies. C. australis, 30ft., S. Europe; and C. occidentalis, 30ft., Canada, are the only two worth growing. Ordinary soil. Plant in autumn. Increased by layers and cuttings in autumn.

Cornus (Degwood or Cornel).—The Dogwoods are hardy deciduous ornamental-leaved and flowering shrubs. Not only are some of the species very attractive shrubs in summer, but also very effective in winter on account of the rich colouring of their stems and twigs. They belong to the Nat. Ord. Cornaceæ. Here are the most attractive kinds. C. alba is a native of Asia, grows about 10ft. high, has slender, red-barked stems and creamy-white flowers, succeeded by white berries. Of this a variety named Spaethii is noteworthy for its bronzy leaves in spring, which change to a golden tint in summer. It grows about 3ft. high. C. capitata (known also as Benthamia fragifera or so-called Strawberry Tree) is a more or less evergreen species from N. India, which bears white flowers succeeded by red strawberry-like fruits, but is only hardy enough to be grown in Devon and Cornwall. C. florida is another species which only thrives outdoors in sheltered positions. The flowers are greenish-yellow, and the foliage changes to a beautiful tint in autumn. C. Mas (Syn. C. mascula), the Cornelian Cherry, is an Austrian species, which is conspicuous in March by its wealth of yellow flowers borne on leafless twigs, and for its red cherry-like fruits borne later.

It grows 8 to 10ft. high. C. Mas variegata has leaves variegated with white, and C. Mas elegantissima leaves of gold and green tinted with red. These are extremely handsome varieties. C. sanguinea, the common native Dogwood, has reddish stems, and white flowers succeeded by red berries. There is a very pretty herbaceous species of which we must not omit to make mention here, namely, C. canadensis (Dwarf Cornel). This is a North American plant with creeping rhizomes, from which rise stems 6in. high furnished with whorls of leaves and tiny flowers surrounded with cream-coloured bracts and later on followed by red berries. It is a pretty plant for moist rockeries and bog gardens, and requires a peaty soil. The preceding species, with the exception of C. capitata and C. florida are suitable for massing in the shrubbery or on the lawn or pleasure grounds in large gardens. For smaller gardens the two variegated forms of C. Mas are the best to grow. C. Mas and C. sanguinea will do well by the side of streams or ponds. They will thrive in ordinary soil and should be planted in autumn Increased by cuttings of ripened shoots in autumn, or layering in summer. The Dwarf Cornel may be increased by division of the rhizomes in autumn.

Corylus (Hazel Nut).—This genus furnishes the Hazel Nut, Filbert, and Cob-nut of commerce. The Common Hazel (C. Avellana), belongs to the Nat. Ord. Corylaceæ, and is a native bush of no value for garden decoration, but there are several varieties of it that are decidedly ornamental shrubs. For example, C. Avellana purpurea has purple foliage; C. Avellana aurea, golden leaves; C. Avellana laciniata, elegantly cut leaves; and C. Avellana pendula has a graceful drooping habit. These are most desirable deciduous shrubs to grow in the mixed shrubbery on account of their coloured or elegant foliage. C. maxima atropurpurea has purple foliage also, and is well worth growing. The foregoing will succeed in good ordinary soil, and may be increased by cuttings of ripened shoots removed with a "heel" and inserted firmly in ordinary soil outdoors in autumn, or by layering the shoots at the same season.

Cotoneaster (Rockspray).—Hardy deciduous and evergreen shrubs, belonging to the Rose order (Rosaceæ). These shrubs, apart from their neat foliage and habit, are very attractive in autumn and winter on account of the profusion of bright red berries which they bear. One of the best of the evergreen species is C. microphylla, a native of the Himalayas. This has slender shoots and glossy, tiny, deep green leaves, and grows 3 to 4ft. high. Its flowers are white, borne in May, and these are succeeded by crimson berries. This

is a most accommodating shrub. It will cover low sunny walls with a dense carpeting of foliage; clothe a sunny bank, and look most effective in winter when covered with berries: ramble over an old tree-stump; or cover bare spaces on rockeries effectively. It will thrive in suburban or country A still neater growing evergreen species is C. thymifolia. This only grows about a foot high, has dark shining thyme-like foliage, silvery beneath, and bears scarlet berries freely in winter. This is a most desirable shrub for forming a neat edging to shrubbery borders or for clothing stones or rockeries. C. horizontalis is a procumbent deciduous species with frond-like branches, which hug or embrace large stones on a rockery, almost hiding them from view. The leaves change to a pretty tint in autumn, and its berries afterwards afford an additional attraction. buxifolia has box-like leaves, grows 5 to 6ft. high, forms a spreading bush, and is usually well furnished with crimson berries in winter. A good evergreen shrub for rockeries or low walls. C. frigida is a partly deciduous shrub, bearing orange-scarlet berries in winter. This species, being tall growing, is only suitable for large shrubberies. C. Simonsii is a good, hardy, berry-bearing, partly deciduous shrub for general culture in shrubberies. There are several others, but those just named are the best for average gardens. They will thrive in ordinary soil in sun or shade, and may be planted in early autumn or spring. Increased by seeds sown outdoors in autumn or spring, also by layering the shoots in autumn, by cuttings in autumn, or by grafting in spring on C. Simonsii, C. vulgaris, or the Quince.

cryptomeria.—Hardy evergreen ornamental-leaved trees, belonging to the Conifer family (Coniferæ), and natives of Japan. C. japonica is a very distinct and graceful tree of conical habit of growth, and its variety elegans is also a handsome tree. Both are specially suited for growing as specimens on the lawn, where they can be well sheltered from strong winds. Neither of them grow very fast nor attain a greater height than 20 to 30ft. They require a warm, well-drained, sandy, loamy soil. Plant in September and October. Increased by seeds.

coniferous trees of a pyramidal habit of growth, and forming handsome specimens for growing on the lawn and in the pleasure grounds. The Lawson Cypress (C. lawsoniana) is a native of N. America, grows up to rooft, in height, and has deep green, feathery foliage. This species is very hardy and will thrive on any soil except peat. Besides its adaptability

as a specimen tree for lawns it also makes an excellent hedge. For this purpose it should be planted 1 to 2ft. apart, when not more than 3ft. high, in deeply trenched soil, and the sides be annually trimmed in April or September. There are several varieties of this species which make good lawn trees. The best are: Albo-spica, terminal leaflets, creamy white; aureo-variegata, branchlets bright yellow; and erecta viridis, habit tapering and foliage a bright green. The other species worthy of mention is C. nootkatensis (Syn. Thuiopsis borealis), a very hardy kind with slender drooping branchlets. The Conifers, generally known as Retinosporas, strictly belong to this genus, and as they require the same cultural conditions we deal with them here. The principal species are C. obtusa (Syn. Retinospora obtusa), C. pisifera (Retinospora pisifera), and C. thyoides (Syn. Retinospora ericoides). Of C. obtusa there are a number of varieties, as plumosa argentea, plumosa aurea, plumosa albo-picta, aurea, filicoides, and gracilis aurea. Similarly of C. pisifera, filifera, plumosa and squarrosa are wellknown varieties. All this section are natives of Japan, and form handsome trees for growing singly on the lawn. Filifera has thread-like branches and plumosa feathery branches; both very elegant trees. The cypresses require a damp soil. These conifers are best planted in September or October, or in April. In planting dig out a good wide hole and well break up the subsoil. Do not add any manure, but if the soil is heavy incorporate plenty of leaf-mould with it. Increased readily by cuttings of little branchlets 2 to 3in. long, and removed with a heel, then inserted firmly in sandy soil in a cold frame in The cuttings should not be disturbed for two years. autumn.

Danæa (Alexandrian Laurel).—D. laurus, also known as Ruscus racemosa, is a hardy evergreen shrub, growing 2 to 3ft. high, and specially suitable for carpeting the ground under the shade of trees. This shrub has no true leaves, only flattened leaf-like branches. It bears greenish-yellow berries in May, succeeded by round red berries. A native of Portugal and a member of the Lily family (Liliaceæ). Plant in early autumn. Increased by suckers and layers.

Daphniphyllum.—D. glaucescens is a hardy deciduous shrub, growing 4 to 8ft. high, and chiefly grown for the sake of its foliage. It will thrive in ordinary soil. Plant in autumn. Increased by layers.

crnamental-leaved shrubs, belonging to the Nat. Ord. Elæagnaceæ. The best known species are: E. angustifolia (Oleaster), a South European deciduous species, with leaves clothed with silvery scales, and yellow fragrant flowers followed by red



A HANDSOME GREEN-LEAVED HOLLY (ILEX MADERENSIS).

See p. 440 for description and culture.



MAMMOTH TREE OF CALIFORNIA OR WELLINGTONIA (SEQUOIA GIGANTEA).

See p. 451.

fruits in autumn. Suitable for the mixed shrubbery, and requires a well-drained light soil. E. argentea (Silver Berry) is a native of Hudson's Bay, has rusty branches and silvery foliage. Flowers yellow, borne in summer. A deciduous species which may be grown like E. angustifolia. E. multiflora is a Japanese deciduous species with rusty branches and silvery leaves, and orange-red edible fruits borne in autumn. Grow in the mixed shrubbery. E. macrophylla is an evergreen species from Japan with large leaves, green above and silvery beneath. The greyish-white fragrant flowers are borne in autumn. This species may also be grown in the shrubbery. E. pungens aurea maculata has leaves variegated with yellow; and E. pungens variegata leaves variegated with white. Plant in autumn. Increased by seeds sown outdoors in spring, and by cuttings inserted in sandy soil in a cold frame in October.

Ephedra (Shrubby Horsetail).—E. distachya, the only species, is a South European evergreen, with green cylindrical branches furnished sparsely with narrow leaves. The shrub is somewhat similar in habit to the Horsetail (Equisetum), hence its common name. The flowers are white, borne in catkins, and succeeded by red berries. The male and female flowers are borne on separate plants, the female only being berry-bearing. Monostachya or vulgaris is a variety said to be hardier than the species. This shrub will succeed in ordinary soil on a sunny rockery or bank, where its sprawling shoots can grow at will. Plant in autumn. Increased by layering the shoots in summer.

Eucalyptus (Gum Tree).—The Blue Gum Tree (E. globulus) is sometimes used for mixing with other tender foliage plants in beds during the summer. For this purpose the trees have to be grown in pots under glass from October to June, then plunged in their pots when required in the garden.

with ornamental foliage and showy fruits in autumn. Nat. Ord. Celastraceæ. The deciduous species are: E. americanus, a native of N. America; and E. europæus, a native of Britain, etc. E. americanus (Strawberry Bush) grows 3 to 6ft. high, and bears scarlet fruits in autumn. E. europæus grows wild in hedgerows in many parts of the country. It attains a height of 6 to roft., and bears pink and orange fruits. There is also a white fruited variety named fructo-albo. The evergreen species include E. japonicus, the well-known Japanese shrub so common in town and seaside gardens, and E. radicans, a small-leaved species with slender stems

which creep up a wall like ivy. Of E. japonicus there are several varieties, as argenteus variegatus, silver-leaved; aureo-variegatus, leaves margined with vellow: latifolius variegatus, leaves variegated with white; latifolia aureus, leaves variegated with yellow, and microphyllus, a small-leaved dwarf kind. Then there is also a variegated form of E. radicans which is specially suitable for edgings and for clothing walls in sheltered positions. The deciduous and the evergreen kinds are suitable for shrubbery culture, and the variegated ones for the front of shrubberies, or other purposes in the garden, including the embellishment of vases and window-boxes in winter. All the euonymuses The evergreen kinds are excellent sea-side and town shrubs. should be planted in early autumn or in April and May, and the deciduous ones in autumn. Grow in good ordinary soil. The evergreens may be trimmed or pruned into shape in April. Increased by cuttings of the points of shoots 4 to 6in. long, inserted in sandy soil in a cold frame in September or October.

Fagus (Beech).—The Common Beech (F. sylvatica) is a well-known deciduous tree much grown in woodlands and as specimen trees in parks, etc. Except in large shrubberies this tree is not a suitable garden tree on account of its large size, but it is often grown as a hedge plant, for which purpose it is well suited. It does well as a hedge plant in dry, loose or chalky soils, and will often thrive where other kinds fail. Trench the soil 3ft. wide and fairly deep, and then plant two to four-year-old plants a foot apart between October and April. Cut off straggling side and top growths when first planted, and afterwards trim the shoots annually in summer. For garden adornment the best forms of the Common Beech to grow are: Cuprea (Copper Beech), with coppery foliage; purpurea (Purple Beech), with deep purple foliage; heterophylla (Cutleaved Beech), with elegantly cut foliage; aurea variegata (Golden Beech), golden striped leaves; argenteo-variegata, silver-striped leaves. These make noble and handsome trees for the shrubbery, or better still as specimens on the lawn. Then there is a graceful weeping green form known as pendula, and a purple-leaved weeping form, purpurea pendula, both of which are pretty lawn trees. All the foregoing will thrive in any soil that is not too damp and heavy. For chalky or thin gravelly or limestone soils no trees will do better than the Beech in its various forms. Plant in autumn. The common species is easily reared from seed, but the choice sorts may only be increased by budding in July, or grafting in spring on the Common Beech.

Fraxinus (Ash).—The Common Ash (F. excelsior) is a native of Britain, and grows freely in woodlands, copses, hedgerows, etc. Although an ornamental tree it is rarely grown in gardens, except in large shrubberies. The Weeping Ash (F. e. pendula) is, however, a favourite garden tree as, when large, its long drooping branches make a fine shady arbour in summer, besides having a graceful appearance on the lawn. There are golden and silver variegated forms of the common species, as well as other varieties, but the best for garden purposes is the Weeping Ash. The Manna or Flowering Ash (F. Ornus) is a handsome flowering tree, growing 20 to 30ft. high, a native of S. Europe, and bearing greenish-white flowers in clusters in May and June. This species makes a good specimen tree for the lawn or mixed shrubbery, and does well in town gardens. A deep, rich loamy soil suits the Ash best. Plant in autumn. The Weeping and Flowering Ashes are budded or grafted on the Common Ash.

Ginkgo (Maidenhair Tree).—The only species is G. biloba, better known as Salisburia adiantifolia. This is a Japanese deciduous conifer, growing 6oft. high and upwards, and a very beautiful tree either in summer or autumn. Its leaves are much like the pinnules of the Maidenhair Fern, hence its common name. The leaves change to a lovely yellow tint in autumn. A warm sheltered position and a deep loamy soil is needful to grow this beautiful tree well. It is a slow grower. Plant in autumn. Increased by sowing imported seed in sandy soil in a cold frame in spring.

Griselinia.—Hardy evergreen shrubs, one species only (G. littoralis) of which is worth growing. This is a native of New Zealand, has leathery, toothed, glossy leaves, and is grown for its foliage only. Belongs to the Dogwood family (Cornaceæ). Height 10 to 12ft. Plant in autumn or spring in light loam in sheltered shrubberies. Increased by cuttings and layers in autumn.

Gymnocladus (Kentucky Coffee Tree).—G. canadensis, a native of N. America, is a hardy deciduous tree with pinnate leaves, which imparts to it a very elegant appearance in summer. It grows about 20ft. high, and thrives best in a rich loam in a partially shaded position. Plant in autumn. Increased by cuttings of the root.

Hippophæ (Sea Buckthorn).—H. rhamnoides is the only species of this genus, and this is a naturalised shrub on many of our sea-shores in England, Scotland and Ireland. It belongs to the Oleaster family (Elæagnaceæ), and bears its male and

female flowers on separate plants. The female plant is the most attractive, this bearing a profusion of beautiful orange berries in autumn and winter. The leaves, moreover, are pretty, being dark green above and silvery beneath. The branches are thorny. The average height is 6 to 8ft. An excellent shrub for seaside gardens, as it withstands the salt spray extremely well. It will also succeed in inland gardens if planted in a deep rich soil near a pond or stream. It is desirable to plant both male and female plants to ensure a crop of berries. Plant in autumn. Straggly shoots may be cut back in winter. Easily increased by seeds, layers, or suckers, the latter being the simplest method.

Hymenanthera.—The only species grown—H. crassifolia—is a dwarf evergreen shrub, a native of New Zealand, and a member of the Pansy family (Violaceæ). This shrub grows 3 to 4ft. high. has yellow flowers borne in March and April, succeeded by pearly-white berries. It is an interesting shrub well worthy of a place in a sheltered sunny border, bed or rockery. Plant in September or May in a bed of sandy loam, peat and leaf-mould. No pruning required beyond the removal of dead wood. Increased by cuttings of ripened shoots in sandy peat in a cold frame in autumn.

lex (Holly).—The Holly is almost too well known to need any lengthy exposition of its merits here. Suffice it to say it is one of the most useful evergreen trees we have, doing well alike in town, suburban or country gardens. The Common Holly (I. Aquifolium) is a native species. Of this there are many beautiful green, golden and silver-leaved forms, which are attractive for their foliage and their red or yellow berries which are borne so freely in the winter. Some kinds bear male flowers only, and hence never yield berries. Others, again, bear female flowers only, and these again fail to bear berries unless a male tree exists in the vicinity. Then there are also hermaphrodite forms with stamens and pistil in each flower, and these are generally fruitful. We mention these facts because so many people wonder why it is their hollies sometimes fail to yield berries. The best of the green-leaved varieties are: Altaclerensis, angustifolia, crassifolia, ferox (Hedgehog Holly), handsworthiana, Hendersoni, heterophylla, Hodginsii, laurifolia, maderensis, minorca, myrtifolia, scotica and Shepherdii. Of the golden-leaved, aureo-marginata, ferox aurea, Golden Queen, Cookii, aureo-picta, and webbiana are the best; while of the silver-leaved kinds, Silver Queen, handsworthiensis argentea, argentea medio-picta, argenteo-marginata, and pendula albo-picta are equally good. The three best hollies in the foregoing list are Hodginsii (green), Golden

Queen (golden), and Silver Queen (silver). Golden Queen is a male variety, and the other two hermaphrodite kinds which berry freely. Shepherdii also berries freely. There is a whiteberried variety named fructo-alba, and a yellow-berried one called fructo-luteo. The only other species to be mentioned is I latifolia, a large-leaved Japanese kind. Hollies may be grown in the mixed shrubbery or as specimens on the lawn. The variegated sorts should certainly be grown on the lawn, as it is there only that they display their handsome habit and pretty foliage to the best effect. When grown in shrubberies they are apt to be overcrowded by other shrubs and have their beauty spoiled. It is therefore a great mistake to plant such choice shrubs where there is a risk of their being crowded and spoiled. Hollies prefer a deep, rich, well-drained loam, and to be planted, if possible, in September or May. Any pruning needed should be done in April. The Common Holly makes one of the best of hedge shrubs. It grows slowly for the first two or three years, but once the plants get established they will in time make a first-rate hedge. The site for a hedge should be trenched 3ft. wide and 3ft. deep, and have plenty of rotten manure and decayed refuse well mixed with the soil. The best time to plant is in May or September, and then plants a foot high should be put in a foot apart, and the soil made firm around them. If the weather should be dry at the time give the soil a good watering and mulch each side of the plants with strawy manure. The trimming should be done in April or September. Hollies are increased by seeds. The berries should be gathered when ripe and mixed with damp sand in a heap outdoors till March, when draw drills an inch deep, and sow the berries thinly. Let the seedlings remain for two years, then lift and transplant a foot apart. Two years afterwards lift the plants and place in their permanent positions. The variegated kinds are increased by grafting in March or by budding in August on the Common Holly. Nat. Ord. Aquifoliaceæ.

Juglans (Walnut).—The Common Walnut (J. regia) is one of our handsomest trees, but is grown more for the sake of its nuts than for its beauty. Nevertheless it is a noble tree and worthy of a place in gardens where there is room for large trees. A variety of it named laciniata has finely cut leaves and is very attractive. J. nigra (American Walnut) is also a very handsome tree, especially when it attains a large size. These trees are not suitable for low-lying, damp soils. Here they make a sappy growth easily injured by frosts. ()n well-drained loamy soils they thrive much better, and in the case of the Common Walnut fruit more freely. Plant in

autumn. Increased by sowing the nuts 3 or 4in. deep where required to grow, or in pots, and afterwards planting out. Nat. Ord. Juglandaceæ.

Juniperus (Juniper).—Hardy evergreen coniferous trees or shrubs, suitable for growing singly on lawns or in the mixed shrubbery. The chief species and varieties are as follows: J. chinensis, a native of China, etc.; habit pyramidal; height 10 to 20ft. Of this there are several varieties: Aurea, young growth suffused with golden yellow; albo-variegata, foliage glaucous, terminal shoots, white; japonica, dwarf, 2ft.; japonica aurea, current year's growth, golden-yellow; and aureo-variegata, growth dense and golden-yellow. The last three are suitable for rockeries. J. communis (Common Juniper), a native of Europe, including Britain; height 8 to 12ft. There are two good varieties, to wit, hibernica (Irish Juniper), an upright, columnar-growing kind, with silvery glaucous leaves; and nana, a dwarf kind, with procumbent branches. J. drupacea, a Syrian species, growing 10 to 20ft. high, and of a conical or columnar habit. J. excelsa, a native of Asia Minor, growing 10 to 20ft. high and of pyramidal habit, a handsome species for growing as a single specimen. Stricta is a pretty form of the latter with a tapering habit and glaucous foliage. J. Oxycedrus is a European species of pendulous habit, with prickly leaves, and growing 10 to 12ft. high. J. occidentalis hails from the United States, grows 10ft. high and upwards, is of erect habit, and a good lawn tree. J. recurva is a Himalayan species, growing 5 to 8ft. high, and with feathery, recurved pendulous branches. J. Sabina (Common Savin), a native of S. Europe, has dense spreading branches, and is best suited for large rockeries or the corner of a lawn. Its variety tamariscifolia is of trailing habit and suitable for a rockery. There is also a variegated form. J. sphærica is a native of China and a species of upright growth; height, 15 to 20ft.; suitable for lawns. J. thurifera comes from Spain and is of pyramidal habit; height, 15 to 20ft.; suitable for lawns. J. virginiana (Red Cedar), a native of the United States, is a handsome medium-sized tree of pyramidal habit, and a fine lawn tree. Of this there are several varieties, as: Albo-variegata, leaves variegated with white; aureo-variegata, golden, variegated; pendula, a weeping form; and glauca, young growths whitish or glaucous. The junipers thrive best in a deep loam or good ordinary soil not too light or too heavy. They should be planted in September or October, or in May. Great care must be taken not to allow the roots to get dry before planting. J. chinensis and J. virginiana make an excellent evergreen hedge. For this purpose trench the soil 3ft. wide and deep, add plenty of decayed vegetable refuse,

and plant the shrubs 18in. apart in September. The sides may be trimmed in April. Increased by cuttings of small shoots or branchlets inserted in a bed of sandy soil in a cold shady frame in late summer or early autumn.

Larix (Larch).—The Larches are hardy deciduous trees, and, with one exception, more suitable for woodlands and hilly places than for oreinary gardens. The Common Larch (L. europæa) is a native of Europe, and a rapid-growing tree. In large shrubberies a few may be planted to serve as nurses to choicer shrubs and to form a screen quickly, the trees being cut down when the other shrubs are well advanced in growth. The Japanese Larch (L. leptolepis) is a less vigorous grower, and not so liable to canker as the common kind. For gardens the Chinese Golden Larch (L. Kæmpferi), a handsome species of pyramidal growth, with yellowish-green foliage in spring and bright golden foliage in autumn, is the most desirable kind to grow. This makes a fine tree to grow on a lawn. The Larches do well in ordinary garden soil, and should be planted in autumn. Increased by seeds sown iin, deep in sandy soil in November, transplanting the seedlings when two years

Laurus (Sweet Bay; Poet's Laurel; Victor's Laurel).—A favourite old evergreen shrub in British gardens, the fragrant leaves of which are much in request for flavouring purposes. L. nobilis is a native of S. Europe, has dark green serrated leaves, is of a compact habit of growth, and grows 15 to 20ft. high. In warm sheltered districts it forms a very handsome shrub, but in exposed positions in severe winters is apt to be injured by frost. It make a good specimen for a lawn, does well in the mixed shrubbery, also makes an excellent shrub to grow as a standard or pyramid in large pots or tubs. Such specimens are often to be seen in London. It thrives best in a sandy or gravelly soil. Plant in September or May. If to be grown in tubs, plant in September. This shrub may be trimmed into shape in April. When grown in tubs, see the roots are well supplied with water. Increased by cuttings of the young shoots inserted in sandy soil in a cold shady frame in July. It belongs to the Bay Laurel order (Lauraceæ).

Libocedrus (Incense Cedar).—This is a genus of coniferous trees, one species only of which is adapted for outdoor culture in this country. L. decurrens is a native of California, and a very handsome tree for growing on the lawn. It grows from 50 to 60ft. high, and is of a columnar habit of growth. It requires a well-drained sandy loam. Plant in September. Increased by seeds sown in slight heat in spring.

Lippia (Sweet Verbena).—A well-known and favourite plant, belonging to the Verbena family (Verbenaceæ). has lemon-scented foliage, which imparts its fragrance on the slightest touch with the hand. The flowers are white or lilac coloured, but they are not particularly showy. In mild districts, especially near the sea, Lippia citriodora thrives successfully out of doors when planted in a well-drained soil at the foot of a warm wall. In some cases its branches die down to the soil and new shoots appear in spring. In others the main branches survive and put forth a crop of new shoots annually. In all cases it is advisable to protect the roots in autumn with a thick layer of cinder ashes, and in severe weather to cover the branches with a straw mat. Young plants, or old ones, grown in pots may be planted out in May, lifted and re-potted in autumn, and stored in a heated greenhouse till the following May. When stored in winter give no water; prune in February and restart to grow in March. Propagation is effected by cuttings of the young shoots, inserted in sandy soil in heat in spring. Better known as Alovsia citriodora. A native of S. America.

Liquidambar (Sweet Gum).—A genus of hardy deciduous trees, belonging to the Witch Hazel order (Hamamelidaceæ). There are several species, but the only one we shall refer to here is L. styraciflua, a native of the United States. This tree has maple-like foliage, is of pyramidal habit, and grows 20 to 30ft. high. Its chief attraction is the brilliance of the autumnal tints of its foliage. An interesting tree to grow on a lawn in a sheltered spot and in a moist loamy soil. Plant in autumn. Increased by seeds and by layers.

Morus (Mulberry).—The Common Mulberry (M. nigra) is an old inhabitant of our gardens, and while it is perhaps grown more for its fruit than as an ornamental tree, its value for the latter purposes ought not to be overlooked. When it attains a large size it is certainly an object of beauty on the lawn. The Mulberry belongs to the Nettle family (Urticaceæ), and bears its male and female flowers separately, either on the same or on distinct trees. It is a native of Asia. There is a white-fruited species named M. alba, a native of China, and a red-fruited one, M. rubra, a native of the United States. M. alba pendula is a variety of M. alba, with pendulous or weeping branches. All the foregoing will thrive in good ordinary, welldrained soils, and they should be planted in autumn. Mulberries do not require much pruning, only shortening straggly shoots here and there. Easily increased by inserting branches 3ft. or so long well into the soil in autumn. These will root in due course, and fruit earlier than those reared from small shoots.

Myrtus (Myrtle).—Evergreen shrubs, with fragrant foliage and white flowers, belonging to the Nat. Ord. The Common Myrtle (M. communis) is the wellknown greenhouse or window plant. It is also often met with growing outdoors against warm walls, where it flowers freely during the summer. There are several varieties of it known as the Box-leaved, Thyme-leaved, and Rosemary-leaved. The foregoing are natives of S. Europe. There is also a Chilian species named M. Ugni (Syn. Eugenia Ugni), with deep shining leaves, and white flowers succeeded by black berries. Both should be grown against a warm sunny wall in loam and leaf-mould. Plant in May or September. No pruning required. They like plenty of moisture in summer. May also be grown in pots or tubs, and placed outdoors in summer. Readily increased by cuttings inserted in sandy soil in a cold frame in summer; in bottles of water hung in a greenhouse or window; also by layering in autumn.

Nyssa (Tupelo Tree).—Hardy deciduous trees, grown chiefly for the value of their foliage, which assumes a rich scarlet tint in autumn. N. sylvatica and N. biflora are the only two species worth growing. These grow 20ft. high or so, and are suitable for planting on the margins of streams, lakes, etc., anywhere where there is plenty of moisture. Plant in autumn. They belong to the Dogwood order (Cornaceæ), and are increased by layering in autumn.

Osmanthus.—A genus of holly-like evergreen pricklyfoliaged shrubs, belonging to the Lilac order (Oleaceæ). All have fragrant flowers, but they are grown mainly for their The best known species is O. Aquifolium, a native of Japan. This has prickly leathery leaves and white flowers borne in autumn. It forms a neat compact bush 4 to 6ft. high, and is well suited for small or large gardens. There are several varieties of it, viz., illicifolius, with small green leaves; illicifolius argenteo-marginatus, silvery-leaved; illicifolius aureo-marginatus, golden-leaved; and myrtifolius, myrtleleaved. O. fragrans (Syn. Olea fragrans) is only hardy enough to grow outdoors in very mild sheltered districts. Plant in good ordinary soil in May or September. These shrubs need no pruning. Increased by cuttings of ripened shoots inserted in sandy soil in a cold frame in autumn; also by layering in September.

Pernettya (Prickly Heath) .- A genus of dwarf evergreen shrubs bearing berries of various shades of purple, rose, white, pink and crimson in winter. They belong to the Heath order (Ericaceæ). P. mucronata, a native of the Straits of Magellan, is the only species grown, but there are many seedling forms of it, all of which are well worth growing in beds of moist sandy peat and leaf-mould on the lawn. Grown by themselves they will, as a rule, fruit very freely; whereas if crowded among other shrubs few berries are borne. The flowers are white and borne in early summer. Plant in May or early autumn. These shrubs do well in boggy earth in the moist climate of Ireland. Berried plants may be purchased in pots in autumn and plunged temporarily in beds or in window-boxes. Such plants must, however, be planted out afterwards. Increased readily by sowing seeds in sandy peat in a cold frame in spring; also by layering the shoots in autumn.

Phillyrea (Jasmine Box or Mock Privet).—Here we have a genus of evergreen shrubs, largely grown in the mixed shrubbery for the sake of their neat habit and deep green foliage. The chief kinds are P. decora (Syn. P. vilmoriniana), 6 to 10ft., Asia Minor; P. angustifolia, 6 to 8ft., Italy; P. latifolia, 20ft., S. Europe; and P. media, 10 to 15ft., S. Europe. These shrubs do well in town or suburban gardens, as they stand soot well. They will succeed in ordinary soil in sun or shade. Plant in May or September. Increased by cuttings inserted in sandy soil in a cold frame in autumn; also by layering at the same time. Nat. Ord. Oleaceæ (Lilac family).

Phyllostachys (Bamboo).—Woody-stemmed Japanese grasses of graceful growth, and known as Bamboos. Allied to, and requiring similar culture to Arundinarias, which see. Handsome plants for grouping on lawns and by the side of water. All the following kinds are quite hardy and deserving of culture: P. aurea, 10 to 15ft., one of the best; P. flexuosa, 6 to 8ft., very graceful; P. mitis, 15 to 20ft., a robust species; and P. viridi-glaucescens, 12 to 18ft., a very hardy and particularly graceful species.

Picea (Spruce Fir).—The Spruce Firs are usually classed with the Silver Firs in the genus Abies, but botanists keep them in separate genera. The Common or Norway Spruce (P. excelsa, syn. Abies excelsa) is one of the hardiest of coniferæ, doing well in exposed positions, and making an excellent shelter tree. A good kind also for the mixed shrubbery. This species is greatly in request for Christmas Trees. It is a native of Norway, Sweden, and N. Europe generally. Grows upwards of 100ft. high. P. alba (Syn. Abies alba) is the White Spruce of N. America. A good tree for damp positions; grows 50 or more feet high. P. Engelmanni (Syn. Abies Engelmanni) is a native of the Rocky Mountains, and a

very handsome tree for lawns. Glauca is a handsome form P. Morinda (Syn. Abies smithiana) is a Himalayan species, growing 8oft. or more, and forming a very noble tree. One of the best specimens we have seen is growing in the garden of Mr. Montagu Taylor, at Shelsley Walsh, Worcestershire. P. nigra (Black Spruce) and P. orientalis are two other species, hardly suitable for gardens. The Norway Spruce make a good shelter hedge. Plant 3ft. apart, and keep the sides cut in closely. In all other respects grow as advised for Abies, which see.

Pinus (Pine).—Evergreen trees of noble and handsome growth, belonging to the Conifer family (Coniferæ). Owing to their large size they are suitable only for the larger class of gardens with ample lawn space, where, when they attain maturity they will form a picturesque feature in the landscape. They require to be grown as single specimens, planting them in May or September. The most handsome species are the Corsican Pine (P. Laricio); Stone Pine (P. Pinea); Swiss Stone Pine (P. Cembra); Weymouth Pine (P. strobus); and the Scotch Fir (P. sylvestris). They all do best in a good deep loam. Increased by seeds.

Platanus (Plane).—There are three species of these noble deciduous trees, the Western or American Plane (P. occidentalis); the Oriental or Common Plane (P. orientalis); and the London plane (P. acerifolia). The former is too little grown in this country to be worthy of remark here. The two latter, however, are very handsome trees, well suited to this climate, and extensively grown here. The London Plane is largely grown in the streets of London and other big towns, and it is an excellent tree for the purpose on account of its shedding its bark, and thus preventing its pores gradually being sealed by sooty deposits. There is an old specimen of this tree in Wood Street, Cheapside, London, E.C., which was very handsome until some vandal amputated its branches in the most merciless fashion and spoiled the beauty of the contour of its head. Whether for town planting or for the country garden the London Plane cannot be surpassed in the noble and handsome character of its growth. It should be planted largely in smoky districts in place of the Lime and Poplar. It prefers a well-drained loamy soil, and should be planted in autumn. The iniquitous practice of severely pruning this tree should be abandoned, letting the branches grow naturally, then its beautiful character will be seen to better advantage. When pruning is attempted it should merely take the form of thinning out the branches, not pollarding them back like willows. London Plane may be increased by seeds, cuttings or layers.

Populus (Poplar).—The Poplars belong to the Willow order (Salicaceæ), and are hardy deciduous trees of free and lofty growth. Their chief value in the garden is their adaptability for rapid growth, and thus making good boundary screens. In small suburban gardens they are quite out of place, their branches shading the garden far too much and their roots robbing the soil of moisture and nourishment. It is far better to plant trees of more moderate growth that flower freely in spring or summer. In larger gardens the Black Poplar (P. nigra) and its variety, the Lombardy Poplar (P. nigra pyramidalis) may be planted 10ft. apart to serve as a boundary screen till other trees grow large enough, then they should be removed. Where the gardens are still more extensive Poplars may be planted singly or in groups to make a bold effect in years to come. They may also be planted in damp, low-lying places, such as the fringe of a watercourse. they will display their natural beauty to advantage. Balsam Poplar (P. balsamifera) and the Lombardy Poplar make good, quick-growing and lofty hedges if planted thickly and their sides are kept well trimmed. The best of the Poplars are the Aspen (P. tremula), a species growing 50ft. high, with grey bark and heart-shaped leaves, which continually exhibit a tremulous motion. P. alba (Abele or White Poplar) grows upwards of 60 to 80ft, high, has also grey bark and ovate leaves. It is a handsome tree when fully grown. P. nigra (Black Poplar) grows 6oft. high, has roundish leaves and whitish, downy, resinous young shoots. The Lombardy Poplar (P. nigra pyramidalis) is the well-known tall and slendergrowing pyramidal kind. P. balsamifera (Balsam Poplar) has ovate leaves, and its buds are coated with a resinous substance of a balsam-like odour. The Necklace or Canadian Poplar (P. deltoidea), known also as P. canadensis and P. monolifera, has heart-shaped leaves, and is a tree of handsome growth. Its variety aurea has golden foliage. There is also a Weeping Poplar, a variety of P. grandidentata. All the Poplars prefer a moist soil, and should be planted in autumn. Increased by seeds sown outdoors in spring or autumn; by cuttings inserted outdoors in October; and by suckers.

Ptelea (Hop Tree).—A genus of hardy deciduous shrubs with foliage possessing a hop-like odour. P. trifoliata is a native of N. America, grows 6 to 8ft. high, has trifoliate leaves, and bears greenish flowers in summer, succeeded by hop-like seed vessels. It belongs to the Rue family (Rutaceæ). The golden-leaved variety, aurea, is the only one we can recommend for general culture. It succeeds in ordinary garden soil, and should be planted in autumn. Increased by cuttings of ripened shoots in a cold frame in autumn.

Pterocarya.—Hardy deciduous trees, belonging to the Walnut order (Juglandaceæ). The only species worthy of note is P. caucasica, an ornamental-leaved tree growing 20 to 30ft. high, and with walnut-like foliage. A native of the Caucasus. A fine tree to grow as a specimen on large lawns, or in parks or pleasure grounds. Plant in ordinary soil in autumn. Increased by seeds, suckers or layers.

Quercus (Oak).—But few species of this genus of the Nat. Ord. Cupuliferæ are suitable for garden culture. The best for the latter purpose are the Evergreen Oak (Q. Ilex); Scarlet Oak (Q. coccinea); Turkey Oak (Q. Cerris); Red Oak (Q. rubra); and the Cork Oak (Q. Suber). The Scarlet and the Red Oaks have foliage which assumes very rich tints in autumn. The Evergreen Oak may be grown as a bush in the shrubbery; the rest are best grown as single specimens on the lawn. They will all thrive in good deep rich soil, and should be planted in autumn. The Evergreen or Holly Oak (Q. Ilex) is a good seaside tree; it also does well on chalky soils. Increased by seeds (acorns) sown outdoors in autumn.

Rhus (Sumach).—Hardy deciduous shrubs or trees, belonging to the order Anacardiaceæ. The best-known species is the Stag's Horn Sumach (R. typhina), a small tree with fern-like foliage and hairy shoots, and greenish-yellow flowers borne in spikes at the points of the branches. This kind is common in suburban gardens. R. glabra laciniata (Scarlet Sumach) is a dwarfer kind, with large fern-like leaves which assume a deep red tint in autumn. R. Cotinus (Smoke Bush or Venetian Sumach) is the most beautiful of all the Sumachs. It grows 6 to 8ft. high, has roundish leaves and a mass of feathery inflorescence, partly produced by the pedicels or flower stalks being converted into white awns. The inflorescence, coupled with the rich autumnal tints of the leaves. impart to this shrub a peculiarly elegant appearance. Its variety atropurpurea has purple-tinted leaves, shoots and flower panicles, and is still more beautiful. R. cotinoides (American Smoke Tree) is of somewhat similar habit, but its leaves assume a rich scarlet tint suffused with orange and crimson in autumn. The two latter make good lawn shrubs and also do well in the mixed shrubbery. All succeed in good ordinary soil, and should be planted in autumn. R. typhina and R. glabra preserve a better habit if their shoots are annually cut back hard in March. Increased by cuttings of the roots or ripened shoots outdoors in autumn, or by layering in autumn.

Rosmarinus (Rosemary).—No garden should be without its rosemary bush. Formerly it was very much esteemed

for its value as a culinary herb as well as for its fragrant foliage, and there is no reason why it should not be grown in every sunny garden to-day for its fragrant leafage and pretty purplish flowers. The Rosemary belongs to the Sage order (Labiatæ), and is a native of the Mediterranean region. It loves a dry sunny spot on a bank or at the foot of a wall. Plant in early autumn or spring. Increased by cuttings or slips inserted in a shady border in summer, also by seeds sown outdoors in a sunny border in April.

Ruscus (Butcher's Broom).—R. aculeatus is a dwarf hardy evergreen shrub without true leaves, and with short flattened leaf-like branches ending in a spine. It bears red berries in the middle of each flattened branch. This shrub does well under the shade of trees, and will grow where others often fail. Plant in ordinary soil in autumn. Increased by suckers in October. A member of the Lily order (Liliaceæ).

Salix (Willow).—The Willows are not suitable trees for the garden, but they are very appropriate subjects for planting along the margins of streams and ponds. The Weeping Willow (S. babylonica) is a very graceful species for an island in a lake or pool. The Crack Willow (S. fragilis) has orange or crimson twigs, which are very attractive in winter; the Purple Osier (S. purpurea) has purplish wood; S. alba britzensis (Cardinal Willow), brilliant red bark; and S. alba vitellina (Golden-barked Willow), yellow wood. These grouped or massed near water make a most showy effect in winter. Plant in autumn. Increased by cuttings inserted in damp soil in autumn. The Willows belong to the Poplar order (Salicineæ).

Sambucus (Elder).—The Common Elder (S. nigra) is too much of a rank weed to plant in gardens. The Golden-leaved Elder (S. nigra foliis aureis), with golden foliage, is so much prettier, that it should be grown in preference to the type. The Parsley-leaved Elder (S. nigra laciniata) is also a superior variety, with finely cut foliage. S. racemosa (Scarlet Berried Elder) is a beautiful species from S. Europe, with finely cut leaves and white flowers succeeded by scarlet berries. There is a golden-leaved form of it named foliis aureis. All these forms are splendid subjects for the mixed shrubbery, the golden-leaved kinds being especially showy. To keep these in good shape and to ensure plenty of young wood, cut the shoots well back annually in March. Plant in autumn in ordinary soil. Increased by cuttings in ordinary moist soil outdoors in autumn.

Santolina (Lavender Cotton).—A genus of dwarf evergreen shrubs with greyish fragrant foliage. Daisy order (Compositæ). S. Chamæcyparissus (French Lavender) is a native of S. Europe, grows 1 to 2ft. high, and bears yellow flowers in roundish heads in July. S. incana is supposed to be a variety of the latter. It is of dwarfer habit, and has whiter foliage. The former is suitable for dry banks and large rockeries, and the latter for edgings to borders or grouping on sunny rockeries. Ordinary soil. Plant in autumn or spring. Increased by cuttings in sandy soil in a cold frame in summer; also by division in March.

Sciadopitys (Umbrella or Parasol Pine).—S. verticillata is a Japanese coniferous tree, growing 10 to 20ft. high, and having a pyramidal habit of growth. The branches are horizontal and spreading and the tree has a handsome appearance. A slow-growing tree. Suitable only to grow in sheltered positions on the lawn in mild districts. Requires a moist loamy soil. Plant in May or September. Increased by seeds.

Sequoia (Mammoth Tree of California and Californian Redwood).—The Mammoth Tree of California (S. gigantea, known also as Wellingtonia gigantea) is the largest growing conifer in the world. In its native home it attains a height of 300 to 400ft., and in Britain there are specimens 90ft. high. A beautiful tree to grow as a specimen on the lawn in large gardens or in parks. S. sempervirens (Californian Redwood) is another handsome species of lofty growth. These do best in deep, well-drained loam. Plant in May or September. Increased by seeds.

skimmia.—Dwarf evergreen berry-bearing shrubs, native of China and Japan, and members of the Rue order (Rutaceæ). Two species only are grown. S. Fortunei grows 3ft. high, has glossy green leaves, white flowers, and crimson berries borne in autumn. S. japonica grows 2 to 3ft. high, has bright green leaves and red berries. The latter species sometimes bears its male and female flowers on distinct plants and sometimes on the same plant. The male plant, of course, does not bear berries, but it is very pretty when in flower. To get this species to berry, see that male and female plants are grown together. The Skimmias do well in sandy peat, or peat and loam, either in sun or in the shade, in country, town or suburban gardens. Plant in May or September. No pruning needed. Increased by layering the branches in autumn.

Stephanandra.—Hardy deciduous shrubs, natives of Japan, and grown chiefly for the sake of their pinnatifid or feathery foliage. They have long arching shoots, and look

very attractive when grown in a group in the wild garden or in the shrubbery. S. flexuosa bears small white flowers in branching panicles in June, and S. Tanakæ, greenish blossoms in loose panicles at same time. Height 3 to 4ft. Members of the Rose order (Rosaceæ). Increased by suckers in autumn. Grow in good ordinary soil, and plant in autumn. Allied to the shrubby spiræas.

Taxodium (Summer-leafing Cypress.—A genus of deciduous coniferous trees, of which T. distichum is the chief species. This is a very elegant and beautiful tree of pyramidal habit, growing upwards of 90ft. high in this country. In the United States, its native habitat, it grows freely in swamps and moist land generally, and in England it thrives best near the margins of water in moist soil. The leaves are of a lovely deep green in summer, and change to a reddish tint in autumn. Plant in the autumn. Increased by seeds sown in sandy soil in pans in a cold frame; also by cuttings of the young shoots inserted in sandy soil in gentle warmth in summer.

Taxus (Yew).—Well-known hardy evergreen coniferous shrubs or trees. The Common Yew (T. baccata) is a native of Britain, and some of the finest trees of it are to be seen in old country churchyards. In gardens it is grown in the mixed shrubbery, often as a hedge shrub, and formerly extensively grown in cottage and large gardens as a shrub, with its branches trained and clipped into all sorts of fanciful figures. The tree readily lends itself to this sort of thing, a phase of gardening more curious than beautiful. When grown as a hedge shrub the soil should be trenched 3ft. wide and deep and young plants a foot or so high planted 12in, apart in May or September. Yew hedges are best trimmed in April before new growth begins, or in September, when growth has ceased for the season. Of the Common Yew there are many beautiful varieties which make excellent garden shrubs. Irish Yew (T. baccata fastigiata) is an upright growing kind, and a very handsome shrub to grow singly on the lawn or in the mixed shrubbery. Its golden leaved variety (aurea) and silver-leaved form (argentea) are also extremely pretty. Then there is the Golden Yew (T. baccata aurea), a variety which has the tips of its shoots a rich golden-yellow; the Dovaston Yew (T. baccata Dovastonii), a variety with long leaves and pendulous branches, a very elegant shrub; T. baccata elegantissima, a variety of compact habit with its leaves striped with yellow; and T. baccata nana, a dwarf dense-foliaged variety which only grows 3ft. high. Any or all of the foregoing make handsome lawn trees. The Yews will succeed in ordinary good soil, and should be planted in May or September. Great care must be taken not to allow the roots to get dry before planting, otherwise the tree will shed its leaves and gradually die. When planted in May, give plenty of water in dry weather, and syringe the foliage every evening. Yews are gross feeders, and therefore should not be planted too close to flower borders. Again, as the foliage is poisonous to cattle, do not plant yews where the latter can have access to them. Increased by seeds sown outdoors in spring. The berries should be gathered when ripe and stored in sand till spring. Increased also by cuttings of young shoots in sandy soil in a cold frame in autumn.

Thuya (Arbor-vitæ).—Hardy evergreen coniferous shrubs and trees of great value for garden decoration. The bestknown species are: T. dolabrata (Syn. Thuiopsis dolabrata) a handsome tree with flattened branches, specially suitable for small lawns, or for growing as a hedge. Lætevirens is a dwarf form of it; native of Japan; height 15 to 20ft. T. gigantea (T. Lobbi) is one of the handsomest species. It is of pyramidal habit, grows 60ft. high and upwards, and forms a beautiful lawn tree. Is also largely used for hedges. Native of N.W. America. T. occidentalis (American Arbor-vitæ) is a species largely used for planting in mixed shrubberies and for forming hedges. It is rather too weedy a species to be worthy of a place on a lawn. T. orientalis (Biota orientalis) is the Chinese Arbor-vitæ, and is also largely grown in mixed shrubberies. Its golden-leaved form (aurea) makes a neat. dwarf bushy shrub to grow on small lawns. The Thuyas will succeed in good ordinary soil, or better still in a deep rich loam. They are rather partial to moisture, so should be planted in very shallow soils. Plant in May or September. As previously mentioned, T. gigantea, occidentalis and orientalis are often grown as evergreen hedges. The soil must be deeply trenched beforehand, and plants 1 to 3ft. high planted a foot apart in May or September. The sides should be annually trimmed in in April or September. Increased by cuttings of small branchlets inserted in sandy soil in a cold frame in September.

Tilia (Lime).—Hardy deciduous trees, belonging to the Nat. Ord. Tiliaceæ. The Lime or Linden Tree (T. vulgaris or europæa) is a European species, naturalised in England. It is a common tree in our thoroughfares, parks, and even in small gardens, its chief attraction being its pleasing green leafage in a young state. It is planted far too commonly in small gardens, where the rapid growth of its shoots and roots shade and rob the soil of its fertility and moisture. It were far better

to plant some of our beautiful flowering trees in its place. It is, however, a useful tree to plant as a boundary screen. By shortening the shoots on each side annually a dense wall of green leafage can then be obtained in summer. Other species are T. argentea, cordata and platyphyllos, kinds suitable only for park planting. The Lime succeeds in any soil, should be planted in autumn, and is increased by layering.

Tsuga (Hemlock Spruce).—T. canadensis is a hardy evergreen coniferous tree, and a native of N.E. America. It is one of the most graceful conifers grown in this country. It grows upwards of 6oft. high, and has feathery branches which impart to the tree a most beautiful aspect. This tree is only suitable for large gardens, where it should be planted in a moist, deep, moderately light soil. Plant in May or September. Increased by seeds sown in sandy soil in a cold frame.

Ulmus (Elm).—The Common Elm (U. campestris) is of no value as a garden tree, but the Wych Elm (U. montana) and its varieties are worthy of a place in large gardens and parks. The Wych Elm is a handsome tree with spreading branches well suited for large lawns, or for street planting in seaside districts. Pendula is a weeping form, and cornubiensis (Cornish Elm) is also a good variety, which is later in leafing than most kinds. These trees will thrive in ordinary soil.



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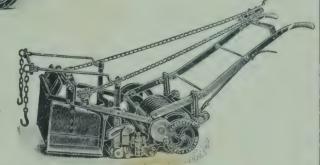
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